

N O T I C E

NO HAND CARRIED BIDS! NO MAILED BIDS!

Current security requirements established by the U.S. Capitol Police to screen mail being delivered to the U.S. Capitol Complex of buildings preclude the use of U.S. Postal Service by offerors to deliver their proposals submitted in response to this solicitation. In addition, because all packages must be screened for security purposes at a central location prior to their delivery, the Architect of the Capitol cannot accept packages containing offers handcarried directly to the Bid Room address within the Ford House Office Building, as specified elsewhere in this solicitation, or at any other location in the U.S. Capitol Complex of buildings.

Due to these unusual circumstances the Procurement Division for the Architect of the Capitol will only accept offers/proposals via UPS or FEDEX. See provision AOC52.215-1 Instructions to Offerors located in Section L for solicitations for services/supplies or the Solicitation Conditions for solicitations for construction. All handcarried offers/proposals will be rejected. Any attempt to handcarry an offer/proposal to any location in the U.S. Capitol Complex of buildings will be refused. Offerors are advised when sending proposals via FEDEX or UPS ***not*** to use same day delivery. FEDEX/UPS often subcontract out the delivery for same-day service. It is necessary for delivery personnel to arrive in a FEDEX/UPS truck and be in a uniform recognized as FEDEX/UPS. Offerors are encouraged to determine who will be making the delivery when making arrangements with FEDEX/UPS.



EMERGENCY/EXIT LIGHTING UPGRADES, FORD HOUSE OFFICE BUILDING, WASHINGTON, D.C.

July 13, 2006

Alan M. Hantman, FAIA
Architect of the Capitol
United States Capitol
Washington, D.C. - 20515

PROJECT MANUAL

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ISSUED BY: ARCHITECT OF THE CAPITOL

**EMERGENCY/EXIT LIGHTING UPGRADES, FORD HOUSE OFFICE BUILDING,
WASHINGTON, D.C.**

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VOLUME I

BUSINESS

SOLICITATION, OFFER, AND AWARD <i>(Construction, Alteration, or Repair)</i> January 2004	1. SOLICITATION NO.	2. TYPE OF SOLICITATION	3. DATE ISSUED	PAGE OF PAGES	
	RFP NO. 060128	_____ SEALED BID (IFB) <u>XX</u> NEGOTIATED (RFP)	13 JUL 06	1	2

IMPORTANT - The "offer" section on page 2 of 2 must be fully completed by offeror.

4. CONTRACT NO.	5. REQUISITION NO. HB060091	6. PROJECT NO. 000018D
7. ISSUED BY CODE _____ ARCHITECT OF THE CAPITOL United States Capitol Washington, D.C. 20515		8. ADDRESS OFFER TO Architect of the Capitol Procurement Division Ford House Office Building Attn: Fred Witcher Room H2-263 Bid Room Second and "D" Streets, S.W. Washington, DC 20515
9. FOR INFORMATION CALL:	A. NAME FRED WITCHER	B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS) (202) 226- 7092

SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SUBJECT: EMERGENCY AND EXIT LIGHTING UPGRADES, FORD HOUSE OFFICE BUILDING

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (Title, identifying no., date):

1. **A SITE VISIT WILL BE CONDUCTED ON TUESDAY, JULY 25, 2006 COMMENCING AT 10:15 A.M. WE WILL CONVENE IN THE FORD HOUSE OFFICE BUILDING, ROOM 526.**
2. **Davis Bacon Wage Determination DC030003, Modification No. 38, dated 26 May 06 applies.**
3. **Liquidated damages will be assessed as specified in the clause entitled "LIQUIDATED DAMAGES - CONSTRUCTION" (SEP 2000) in the attached "SUPPLEMENTARY CONDITIONS".**

11. The CONTRACTOR shall complete performance within see article entitled "Commencement, Prosecution and Completion of Work" of the Supplementary Conditions.

12. The CONTRACTOR must furnish any required performance, payment bonds and insurance: XX YES NO. If YES, within 10 calendar days after award of the Task Order.

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and 1 copy to perform the work required are due at the place specified in Item 8 by 1:00 p.m local time, August 15, 2006. If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee is, X is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

D. Offers providing less than 60 Calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

OFFER (Must be fully completed by offeror)

14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code)

DUNS NO. _____ TIN _____

15. TELEPHONE & FACSIMILE NOS. (Include area codes)

16. REMITTANCE ADDRESS (Include only if different than Item 14)

17. The offeror agrees to perform the work required at the prices specified in the Schedule in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within 60 calendar days after the date offers are due.

18. The Offeror agrees to furnish any required performance, payment bonds and insurance.

19. ACKNOWLEDGMENT OF AMENDMENTS

(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.										
DATE										
20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)				20B. SIGNATURE					20C. OFFER DATE	

AWARD (To be completed by Government)

21. ITEMS ACCEPTED:

22. AMOUNT

23. ACCOUNTING AND APPROPRIATION

24. SUBMIT INVOICES TO ADDRESS SHOWN IN ITEM 27

(In Triplicate)

25. AUTHORITY FOR NEGOTIATION, IF APPLICABLE

26. ADMINISTERED BY:

CODE _____

See Block 8

27. PAYMENT WILL BE MADE BY:

ARCHITECT OF THE CAPITOL
Ford House Office Building
Accounting Office, Room H2-205
Washington, D.C. 20024

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

____ 28. NEGOTIATED AGREEMENT (Contractor is required to sign this document and return _____ copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all work, requisitions identified on this form and any continuation sheets for the consideration stated in the contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, requirements, certifications, and specifications or incorporated by reference in or attached to this contract.

____ 29. AWARD (Contractor is not required to sign this document.) Your offer on this solicitation, is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN
(Type or print)

31A. NAME OF CONTRACTING OFFICER (Type or print)

30B. SIGNATURE

30C. DATE

31B. UNITED STATES OF AMERICA

31C. AWARD DATE

BY:

SECTION B

SUPPLIES OR SERVICES AND PRICES/COSTS

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SECTION B

SUPPLIES OR SERVICES AND PRICES/COSTS

GENERAL PURPOSE

The Contractor shall provide the necessary personnel, equipment and materials to provide Emergency and Exit Lighting Upgrades in the Ford House Office Building (FHOB), Washington, D.C. in accordance with the specifications and drawings as required by the Architect of the Capitol.

SCHEDULE OF ITEMS

Item No.	Supplies/Services	Quantity	Unit	Unit Price	Amount
0001	Emergency and Exit Lighting Upgrade, FHOB	1	JB	\$ _____	\$ _____
0002	Non-switched conductors, transfer relay assembly, FHOB - up to 25'	1	JB	\$ _____	\$ _____
0003	Non-switched conductors, transfer relay assembly, FHOB - greater than 25'	1	EA	\$ _____	\$ _____
0004	Remove and replace 12" x 12" asbestos containing ceiling tile	100 (est)	EA	\$ _____	\$ _____

TOTAL (0001, 0004) \$ _____

Variation in Estimated Quantity

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an extension, the Contracting

Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgement of the Contracting Officer, is justified.

Offerors shall propose a price for all items listed in the Schedule. Offerors who fail to propose a price for each item on the Schedule will be rejected.

END OF SECTION B

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GENERAL CONDITIONS

AOC52.202-2 DEFINITIONS - CONSTRUCTION (JUN 2004)

- (a) The term “Government” means the United States of America, represented by the Architect of the Capitol, who is the Contracting Officer.
- (b) The term “head of the agency” means the Committee, Commission, or other authority of the Legislative Branch of the Government having final jurisdiction or supervision over the work involved. The “other authority” as used in this paragraph includes the Architect of the Capitol in cases in which he has final jurisdiction or supervision over the work involved.
- (c) The term “Architect” as used in the contract documents shall mean the Architect of the Capitol.
- (d) The term “Contracting Officer” as used in the contract documents means the Architect of the Capitol or his duly authorized representative.
- (e) The term “his duly authorized representative” means any person or persons or board authorized to act for the head of the agency within the scope of their authority.
- (f) The term “Contractor” means the individual, partnership or corporation entering into a contract with the Government to perform the work specified.
- (g) The term “Subcontractor”, as used in this part, means any supplier, distributor, vendor, or firm that furnishes supplies or services to or for a prime contractor or other subcontractor. There is no privity of contract between the Government and the Subcontractors.
- (h) The term “Project Director” means the individual designated by the Architect to monitor the progress of work from a technical standpoint. The duties and responsibilities of the Project Director shall include supervision of scheduling, receipt and verification of Contractor’s payrolls in accordance with the Davis Bacon Act, coordination between Divisions, concerning resolution and/or avoidance of potential problems and, to the extent authorized by the Delegation of Authority, if any, issuance of clarifications, supplemental agreements and change orders to the Contractor.
- (i) The term “contract documents” includes, collectively, the Project Manual, the contract drawings and the addenda and modifications thereto, if any.
- (j) The term “work” includes, but is not limited to, materials, labor, and manufacture and fabrication of components.
- (k) The term “specifications” means the portion of the Contract Documents that consist of the written requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services.

(l) The term “drawings” means the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, that show the design, location and dimensions of the Work, and generally includes plans, elevations, sections, details, schedules and diagrams.

(m) Wherever in the specifications or upon the drawings the word “directed,” “required,” “ordered,” “designated,” “prescribed,” or words of like import are used, it shall be understood that the “direction,” “requirement,” “order,” “designation,” or “prescription,” of the Contracting Officer is intended and similarly the words “approved,” “acceptable,” “satisfactory,” or words of like import shall mean “approved by” or “acceptable to,” or “satisfactory to” the Contracting Officer, unless otherwise expressly stated.

(n) Where “as shown,” “as indicated,” “as detailed,” or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word “provided” as used herein shall be understood to mean “provide complete in place,” that is “furnished and installed.”

(End of clause)

AOC52.203-1 ADVERTISING/PROMOTIONAL MATERIALS (DEC 2005)

(a) It is the policy of the Congress to discourage contractors providing services and supplies to the Legislative Branch entities, including the Architect of the Capitol, from advertising practices that feature the Capitol and Capitol Complex in a manner in which conveys, or is reasonably calculated to convey, a false impression of sponsorship, approval or endorsement of any product or service by the Congress, the Government of the United States, or any Department, Agency or instrumentality thereof.

(b) Contractors performing construction services for Legislative Branch entities, including the Architect of the Capitol, are discouraged from capitalizing on their contractual relationships with such entities and shall not engage in advertising practices which convey, or are reasonably calculated to convey, a false impression of sponsorship, approval or endorsement of any product or service by the Congress, the Government of the United States, of any Department, Agency or instrumentality thereof. This includes utilizing, in conjunction with the fact of their contractual relationship, images of the Capitol, any other buildings in the Capitol Complex, or any part of the United States Capitol Grounds in their advertising or promotional materials; and/or publishing or disseminating the aforementioned advertising or promotional materials.

(c) The Contractor, by signing this contract, agrees to comply with the foregoing and to submit any proposed advertising or promotional copy connected in any manner with this contract and/or the Capitol, other Capitol Complex Buildings, or the United States Capitol Grounds to the Contracting Officer for approval prior to publication.

(d) If this solicitation is for supplies or services, including construction, to be provided to or performed for the United States Supreme Court, the Contractor, by signing this contract, agrees that he or she will not advertise the award of the contract in his/her commercial advertising in such a manner as to state or imply that the Supreme Court of the United States endorses a product, project, or commercial line of endeavor.

(End of clause)

AOC52.203-2 DISCLOSURE OF INFORMATION TO THE GENERAL PUBLIC (JUN 2004)

(a) Promptly after receiving any request from the general public for information on or data derived from this contract, the contractor shall notify the Architect of the Capitol, Procurement Division. The contractor shall cooperate with the Procurement Division in compiling or collecting information or data if the Architect of the Capitol determines the information or data to be releasable.

(b) “General public”, for purposes of this clause, are those groups or individuals who are not authorized by law or regulation to have access.

(c) This clause is not intended to prevent the contractor from providing contract information or data which the contractor is required to provide in order to conduct its business, such as insurance, banking, subcontracting.

(d) The contractor is permitted to request that proprietary information or data not be released if such release would harm or impair the contractor in conducting its normal business. Such request must be documented with clear and specific grounds for that claim.

(End of clause)

AOC52.204-1 PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER (JUN 2004)

The Contractor is encouraged to submit paper documents, such as offers, letters, or reports, that are printed or copied doubled-sided on recycled paper and meet minimum content standards when not using electronic commerce methods to submit information or data to the Government.

(End of clause)

AOC52.211-3 DEFICIENCIES IN CONTRACT DOCUMENTS (JUN 2004)

The Contractor shall promptly inform the Contracting Officer, in writing, of any discovered errors, omissions, discrepancies, conflicts or ambiguities in the contract documents before proceeding with any work affected by such factors. Failure to do so will be at the risk of the Contractor.

(End of clause)

AOC52.211-6 NOTICE TO PROCEED (JUN 2004)

A formal notice, or notices, to proceed will be issued as soon as practical, normally after approval by the Contracting Officer of the bonds and insurance. Unless specifically authorized in writing, any steps taken in connection with the performance of, or the preparation to perform, the contract, prior to issuance of the notice to proceed, will be the responsibility of and at the risk of the Contractor, and without any cost whatsoever to the Government.

(End of clause)

AOC52.215-10 EXAMINATION OF RECORDS (JUN 2004)

(a) The Contractor agrees that the Architect of the Capitol or any duly authorized representatives shall, until the expiration of 3 years after final payment under this contract, have access to and the right to examine any books, accounting procedures and practices documents, papers, records and other data regardless of whether such items are in written form, in the form of computer data or in any other form and other supporting evidence, involving transactions related to this contract or compliance with any clause or certification thereunder.

(b) The Contractor further agrees to include in all its subcontracts hereunder a provision to the effect that subcontractor agrees that the Architect of the Capitol or any authorized representatives shall, until the expiration of 3 years after final payment under the subcontract, have access to and the right to examine books, documents, papers, records other data regardless of whether such items are in written form, in the form of computer data or in any other form, and other supporting evidence, involving transactions related to the subcontract or compliance with any clause or certification thereunder.

(c) The term "subcontract" as used in this clause excludes purchase orders not exceeding \$10,000.

(End of clause)

AOC52.215-11 AUDITS (JUN 2005)

(a) If the price of this contract is changed through the operation of any of the provisions of this contract, the Contractor, within such reasonable time as the Contracting Officer may direct, shall submit complete and accurate cost and pricing data in support of any claim asserted under such provisions.

(b) With the submission of cost and pricing data in support of any claim, the Contractor shall supply the following certification by a duly authorized corporate officer, partner, or owner, as applicable:

"This is to certify that, to the best of my knowledge and belief, the cost and pricing data herewith submitted to the Contracting Officer in support of a price adjustment under Supplement/Claim No. _____ (identify by description) are accurate and complete and they are current as of _____ (date).
Date of Execution _____
Firm _____
Signature _____
Title _____"

(c) The Contracting Officer in accordance with the FAR clause "Audit and Records - Negotiation", 52.215-2, has the right to examine all books, records, documents and other data of the Contractor or subcontractor in order to evaluate the accuracy, completeness, and currency of cost or pricing data thus submitted. The

Contractor shall insert an appropriate provision in all subcontracts for the purpose of making the requirements of this paragraph applicable thereto.

(End of clause)

AOC52.216-6 UNDEFINITIZED CONTRACT ACTIONS (MAR 2005)

(a) In the event of an urgent situation, the services or supplies may be required on an emergency basis under an undefinitized contract action (emergency task/delivery order, contract modification, or letter contract). The undefinitized contract action may be either verbal, typed, or hand written, with the form of the undefinitized contract action dictated by the access the issuing Contracting Officer has to the AOC network or a computer. If issued verbally, the Contracting Officer shall provide a written confirming document to the location identified by the contractor within 5 calendar days after issuance of the verbal undefinitized contract action. If an undefinitized contract action is issued under an existing contract, the terms and conditions of the contract shall be in effect and automatically incorporated by reference under any undefinitized contract action issued.

(b) The scope of work as originally issued on the contract action will, of necessity, be somewhat broad and general in nature. It is to also be considered as a Notice to Proceed immediately with the work under the undefinitized contract action. An estimated amount for the work to be performed shall be obligated to ensure that reasonable funds are available for payment to the contractor, and an estimated completion date shall be identified on the undefinitized contract action. If the contractor believes the amount of funds obligated or time for completion as stated in the undefinitized contract action are unreasonable, within 30 calendar days after issuance of the written undefinitized contract action the contractor is responsible for notifying the Contracting Officer of this and providing a suggested amount of funds for obligation or time for completion. In no instance shall the contractor's suggested amount of funds for obligation or time for completion be considered as binding to the contractor or the Government in future negotiations. The Government can elect to use the contractor's suggested amount of funds or time for completion as an indication that some additional funds or time for completion may be required and obligated or adjusted, respectively, in order to ensure that reasonably adequate funds are available to pay the contractor for services performed or that the completion time is reasonable .

(c) Within a reasonable amount of time after the issuance of the undefinitized contract action but not later than an estimated 25% of the way through the completion of the work under the undefinitized contract action, an authorized representative of the contractor must meet, either in person or telephonically, with the Contracting Officer to further define the scope of work, negotiate the price, identify a final completion date, and address other activities necessary to definitize the undefinitized contract action. This estimated 25% shall use the best information reasonably available and be based upon (1) an estimate of the amount of work completed relative to the original general scope of work or (2) the amount of payments made relative to the original amount obligated.

(d) Payments can be made from the original amount obligated, but the undefinitized contract action must be definitized before payments exceed 40% of funds originally obligated.

(e) If communications are disrupted to the degree that it is necessary to communicate with the Contracting Officer at their residence or through other devices that do not utilize AOC-owned equipment, i.e., the Contracting Officer's residential telephone line, home address, etc., the contractor shall treat the Contracting Officer's personal information as confidential and shall not divulge the information to any individual or organization, including but not limited to other AOC personnel, without the Contracting Officer's express written permission. If it becomes necessary for the Contracting Officer to communicate with the contractor through means other than the contractor's normal place of business, i.e., the contractor's residential telephone line or home address, the Contracting Officer shall not divulge the information to any individual or organization, including but not limited to other AOC or contractor personnel, without the contractor's express written permission.

(f) For the purposes of this clause, e-mail is considered express written permission.

(End of clause)

AOC52.219-1 UTILIZATION OF SMALL BUSINESS CONCERNS (AUG 2004)

(a) It is the policy of the Government as declared by the Congress that a fair proportion of the purchases and contracts for supplies and services for the Government be placed with all types of small business concerns as determined by the size standards in 13 CFR 121.

(b) The Contractor agrees to accomplish the maximum amount of subcontracting to all types of small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

(End of clause)

AOC52.222-1 OVERTIME WORK - CONSTRUCTION (AUG 2004)

No extra reimbursement will be allowed for work performed outside regular working hours or on Saturday, Sundays or holidays and, for work performed in the District of Columbia, Presidential Inauguration Day, unless such work is ordered in writing by the Contracting Officer and payment therefore is authorized in the written order, and provided such work is not otherwise required to be performed under terms of the contract.

(End of clause)

AOC52.222-3 CONVICT LABOR (JUN 2004)

In connection with the performance of work under this contract the Contractor agrees not to employ any person undergoing sentence of imprisonment except as provided by Public Law 89-176, approved September 10, 1965, 18 U.S.C. 4082(c)(2).

(End of clause)

AOC52.222-7 WORKMEN'S COMPENSATION LAWS (JUN 2004)

The Contractor and his subcontractors employed on the site shall comply with the Workmen's Compensation Laws of the District of Columbia.

(End of clause)

FAR 52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA
(JAN 1997) ALTERNATE I (JULY 1995)

(a) "Hazardous material" as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in Paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (If none, insert "None")	Identification No.
--------------------------------------	--------------------

_____	_____
_____	_____
_____	_____

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award a "Material Safety Data Sheet", meeting the requirement of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in Paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the items(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under Paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor

personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to—

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate and disclose the data for the Government for these purposes.

(2) To use, duplicate and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(i) Except as provided in Paragraph (i)(2), the Contractor shall prepare and submit a sufficient number of Material Safety Data Sheets (MSDS's), meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous materials identified in Paragraph.(b) of this clause.

(1) For items shipped to consignees, the Contractor shall include a copy of the MSDS's with the packing list or other suitable shipping document which accompanies each shipment. Alternatively, the Contractor is permitted to transmit MSDS's to consignees in advance of receipt of shipments by consignees, if authorized in writing by the Contracting Officer.

(2) For items shipped to consignees identified by mailing address as agency depots, distribution centers or customer supply centers, the Contractor shall provide one copy of the MSDS' in or on each shipping container. If affixed to the outside of each container, the MSDS's must be placed in a weather resistant envelope.

(End of clause)

AOC52.223-1 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY
DATA - SUPPLEMENT (JUN 2005)

- (a) Except as provided in paragraph (c), the Contractor shall prepare and submit a sufficient number of Material Safety Data Sheets (MSDS's), meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous materials identified in FAR 52.223-3(b).
- (b) For items shipped to consignees, the Contractor shall include a copy of the MSDS's with the packing list or other suitable shipping document which accompanies each shipment. Alternatively, the Contractor is permitted to transmit MSDS's to consignees in advance of receipt of shipments by consignees, if authorized in writing by the Contracting Officer.
- (c) For items shipped to consignees identified by mailing address as agency depots, distribution centers or customer supply centers, the Contractor shall provide one copy of the MSDS' in or on each shipping container. If affixed to the outside of each container, the MSDS's must be placed in a weather resistant envelope.
- (d) For items provided to a construction site, the Contractor shall provide two copies of each MSDS. One copy shall be provided to the COTR in accordance with the Division 1 submittal requirements, and a second copy shall be kept in an MSDS binder on the job site.

(End of clause)

AOC52.223-3 SECURITY MARKINGS (JUN 2004)

- (a) Before dissemination to subcontractors or other personnel, all AOC drawings and electronic copies thereof shall be considered at a minimum to be *sensitive but unclassified* (SBU). The following statement shall be imprinted on *each* page of drawings:

**PROPERTY OF THE UNITED STATES GOVERNMENT
COPYING, DISSEMINATING, OR DISTRIBUTING THESE DRAWINGS, PLANS OR
SPECIFICATIONS TO UNAUTHORIZED USERS IS PROHIBITED**

Do not remove this notice

Properly destroy documents when no longer needed

- (b) The following paragraph shall be included on the cover page of the information (such as the cover page on a set of construction drawings and on the cover page of the specifications).

**PROPERTY OF THE UNITED STATES GOVERNMENT
COPYING, DISSEMINATING, OR DISTRIBUTING THESE DRAWINGS, PLANS OR
SPECIFICATIONS TO UNAUTHORIZED USERS IS PROHIBITED**

Do not remove this notice

Properly destroy documents when no longer needed

(End of clause)

AOC52.223-4 TRANSMISSION OR POSTING OF DRAWINGS/SPECIFICATIONS (JUN 2004)

Due to security issues, the contractor is strictly prohibited from placing or transmitting drawings and specifications on the internet or modem without express permission from the Architect of the Capitol.

(End of clause)

FAR 52.225-9 BUY AMERICAN ACT– CONSTRUCTION MATERIALS (JUNE 2003)

(a) *Definitions.* As used in this clause --

“Component” means an article, material, or supply incorporated directly into construction materials.

“Construction material” means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

“Cost of components” means–

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in Paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the end product.

“Domestic construction material” means–

(1) An unmanufactured construction material mined or produced in the United States, or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

“Foreign construction material” means a construction material other than a domestic construction material.

“United States” means the 50 States, the District of Columbia, and outlying areas

(b) *Domestic preference.* (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. The Contractor shall use only domestic construction material in performing this contract, except as provided in Paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows:

NONE

(3) The Contracting Officer may add other foreign construction material to the list in Paragraph (b)(2) of this clause if the Government determines that--

(i) The cost of domestic construction material would be unreasonable. The cost of a particular construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) *Request for determination of inapplicability of the Buy American Act.* (1)(i) Any contractor request to use foreign construction material in accordance with Paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with Paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in Paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the contractor negotiates adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in Paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act or Balance of Payments Program.

(d) *Data.* To permit evaluation of requests under Paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers;

<u>FOREIGN AND DOMESTIC CONSTRUCTION MATERIALS PRICE COMPARISON</u>			
<u>Construction Material Description</u>	<u>Unit of Measure</u>	<u>Quantity</u>	<u>Price (Dollars)*</u>
<u>Item 1:</u>			
Foreign construction material	_____	_____	_____
Domestic construction material	_____	_____	_____
<u>Item 2:</u>			
Foreign construction material	_____	_____	_____
Domestic construction material	_____	_____	_____

[List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.]

[Include other applicable supporting information.]

[* Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate is issued).]

(End of clause)

AOC52.225-1 BUY AMERICAN ACT - SUPPLEMENT (JUN 2004)

In addition to provisions of the above clause entitled, "Buy American Act", the General Provisions of the Legislative Branch Appropriations Act provides in part, as follows:

(a) It is the sense of the Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available in the Act should be American-made.

(b) In providing financial assistance to or entering into any contract with, any entity using funds made available in the Act, the head of each Federal Agency, to the greatest extent practicable, shall provide to such entity a notice describing the statement made in Paragraph (a) above, by the Congress.

(End of clause)

AOC 52.228-2 INSURANCE - WORK ON A GOVERNMENT INSTALLATION (SEP 2004)

(a) The Contractor shall, at his own expense, provide and maintain during the entire performance of this contract at least the kinds and minimum amounts of insurance as required in this clause.

(b) Within twenty (20) calendar days after the date of contract award or before commencing work under this contract, whichever is earlier, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. A Certificate of Insurance evidencing the Contractor's compliance with the requirements of this clause, identifying all policies of insurance and sureties proposed for the provision of liability coverage pertinent to the work of the instant contract, including the endorsement required in this paragraph, and manually countersigned by an authorized representative of the insurance company shall be submitted in accordance with the time frame stated in this paragraph. All policies for liability protection, bodily injury, or property damage shall include the United States of America, acting by and through the Architect of the Capitol, as an additional insured with respect to operations under this contract. Each policy of insurance shall contain the following endorsement, which may be attached as a rider:

"It is understood and agreed that the Contractor's Insurance Company or surety shall notify the Architect of the Capitol, in writing, thirty (30) calendar days in advance of the effective date of any reduction in or cancellation of this policy."

(c) Insurance and required minimum liability limits are:

(1) Appropriate bodily injury and property damage liability insurance, with limits of not less than \$500,000 for each occurrence and \$2,000,000 for annual aggregate, including requirements for protection of hoisting and scaffolding operations, when applicable, and servicing areas adjacent to the building;

(2) Automobile bodily injury liability insurance with limits of not less than \$200,000 for each person and \$500,000 for each accident, and property liability insurance, with a limit of not less than \$20,000 for each accident. A combined single limit for these coverages is acceptable; and/or

(3) Workmen's compensation insurance as required by the laws of (1) the District of Columbia for work performed on a Government site located in the District of Columbia; (2) the State of Maryland for work performed on a Government site located in Maryland; or (3) the Commonwealth of Virginia for work performed on a Government site located in Virginia.

(d) The Contractor shall insert the substance of this clause, including this paragraph, in subcontracts under this contract that require work on a Government installation, and shall require subcontractors to provide and maintain the insurance required in this clause. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

(End of clause)

AOC52.228-5 PERFORMANCE AND PAYMENT BONDS - CONSTRUCTION (SEP 2004)

(a) *Definitions.* As used in this clause, "original contract price" means the award price of the contract; or, for requirements contracts, the price payable for the estimated total quantity; or, for indefinite-quantity contracts, the price payable for the specified minimum quantity. Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) *Amount of required bonds.* Unless the resulting contract price is \$25,000 or less, the successful offeror shall furnish performance and payment bonds to the Contracting Officer as follows:

(1) Performance Bonds: (Standard Form 25). The penal amount of performance bonds at the time of contract award shall be 100 percent of the original contract price.

(2) Payment Bonds: (Standard Form 25-A). The penal amount of payment bonds at the time of contract award shall be 100 percent of the original contract price.

(c) *Additional bond protection.* (1) The Government may require additional performance and payment bond protection if the contract price is increased. The increase in protection generally will equal 100 percent of the increase in contract price.

(2) The Government may secure the additional protection by directing the Contractor to increase the penal amount of the existing bonds or to obtain an additional bond.

(d) *Furnishing executed bonds.* The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in Item 12 of the form entitled, "Solicitation, Offer, and Award (Construction, Alteration, or Repair)" or otherwise specified by the Contracting Officer, but in any event, before starting work.

(e) *Surety or other security for bonds.* The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, or by other acceptable security such as postal money order, certified check, cashier's check, irrevocable letter of credit,

or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the Federal Register or may be obtained from the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14th Street, NW, 2nd Floor, West Wing, Washington, DC 20227.

(f) Notice of subcontractor waiver of protection (40 U.S.C. 270 b(c)). Any waiver of the right to sue on the payment bond is void unless it is in writing, signed by the person whose right is waived, and executed after such person has first furnished labor or material for use in the performance of the contract.

(End of clause)

AOC52.228-6 NOTICE TO SURETIES (JUN 2004)

The final inspection and acceptance of the work included in this contract shall not be binding or conclusive upon the Government if it shall subsequently appear that the Contractor has willfully or fraudulently, or through collusion with the representatives of the Government in charge of the work, supplied inferior material or workmanship, or has departed from the terms of the contract, or if defects of any kind should develop during the period that the guarantees covering such material and workmanship are in force. In such event, the Government shall have the right, notwithstanding such final acceptance and payment, to have the work removed and to cause the work to be properly performed and satisfactory material supplied to such extent as, in the opinion of the Contracting Officer, may be necessary to finish the work in accordance with the drawings, if any, and specifications, at the expense of the Contractor and the sureties on its bond, and the Government shall have the right to recover against the Contractor and its sureties the cost of such work, together with such other damages as the Government may suffer because of the default of the Contractor in the premises, the same as though such acceptance and final payment had not been made.

(End of clause)

FAR52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (SEP2002)

(a) *Payment of price.* The Government shall pay the Contractor the contract price as provided in this contract.

(b) *Progress payments.* The Government shall make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer.

(1) The Contractor's request for progress payments shall include the following substantiation:

(i) An itemization of the amounts requested, related to the various elements of work required by the contract covered by the payment requested;

(ii) A listing of the amount included for work performed by each subcontractor under the

contract;

- (iii) A listing of the total amount of each subcontract under the contract;
- (iv) A listing of the amounts previously paid to each such subcontractor under the contract;
- (v) Additional supporting data in a form and detail required by the Contracting Officer.

(2) In the preparation of estimates, the Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site also may be taken into consideration if--

- (i) Consideration is specifically authorized by this contract; and
- (ii) The Contractor furnishes satisfactory evidence that it has acquired title to such material and that the material will be used to perform this contract.

(c) *Contractor certification.* Along with each request for progress payments, the Contractor shall furnish the following certification, or payment shall not be made: (However, if the Contractor elects to delete Paragraph (c)(4) from the certification, the certification is still acceptable.)

I hereby certify, to the best of my knowledge and belief, that--

(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;

(2) All payments due to subcontractors and suppliers from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of Chapter 39 of Title 31, United States Code;

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and

(4) This certification is not to be construed as final acceptance of a subcontractor's performance.

_____(Name)
_____(Title)
_____(Date)

(d) Refund of unearned amounts. If the Contractor, after making a certified request for progress payments, discovers that a portion or all of such request constitutes a payment for performance by the Contractor that

fails to conform to the specifications, terms, and conditions of this contract (hereinafter referred to as the “unearned amount”), the Contractor shall - -

(1) Notify the Contracting Officer of such performance deficiency; and

(2) Be obligated to pay the Government an amount (computed by the Contracting Officer in the manner provided in paragraph (j) of this clause) equal to interest on the unearned amount from the 8th day after the date of receipt of the unearned amount until - -

(i) The date the Contractor notifies the Contracting Officer that the performance deficiency has been corrected; or

(ii) The date the contractor reduces the amount of any subsequent certified request for progress progress payments by an amount equal to the unearned amount.

(e) *Retainage.* If the Contracting Officer finds that satisfactory progress was achieved during any period for which a progress payment is to be made, the Contracting Officer shall authorize payment to be made in full. However, if satisfactory progress has not been made, the Contracting Officer may retain a maximum of 10 percent of the amount of the payment until satisfactory progress is achieved. When the work is substantially complete, the Contracting Officer may retain from previously withheld funds and future progress payments that amount the Contracting Officer considers adequate for protection of the Government and shall release to the Contractor all the remaining withheld funds. Also, on completion and acceptance of each separate building, public work, or other division of the contract, for which the price is stated separately in the contract, payment shall be made for the completed work without retention of a percentage.

(f) *Title, liability, and reservation of rights.* All material and work covered by progress payments made shall, at the time of payment, become the sole property of the Government, but this shall not be construed as--

(1) Relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or

(2) Waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(g) *Reimbursement for bond premiums.* In making these progress payments, the Government shall, upon request, reimburse the Contractor for the amount of premiums paid for performance and payment bonds (including coinsurance and reinsurance agreements, when applicable) after the Contractor has furnished evidence of full payment to the surety. The retainage provisions in paragraph (e) of this clause shall not apply to that portion of progress payments attributable to bond premiums.

(h) *Final payment.* The Government shall pay the amount due the Contractor under this contract after--

(1) Completion and acceptance of all work;

(2) Presentation of a properly executed voucher; and

(3) Presentation of release of all claims against the Government arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned under the Assignment of Claims Act of 1940 (31 U.S.C. 3727 and 41 U.S.C. 15).

(i) Limitation because of undefinitized work. Notwithstanding any provision of this contract, progress payments shall not exceed 80 percent on work accomplished on undefinitized contract actions. A "contract action" is any action resulting in a contract, as defined in FAR Subpart 2.1, including contract modifications for additional supplies or services, but not including contract modifications that are within the scope and under the terms of the contract, such as contract modifications issued pursuant to the Changes clause, or funding and other administrative

(j) Interest computation on unearned amounts. In accordance with 31 U.S.C. 3903©)(1), the amount payable under paragraph (d)(2) of this clause shall be --

(1) Computed at the rate of average bond equivalent rates of 91-day Treasury bills auctioned at the most recent auction of such bills prior to the date of the Contractor receives the unearned amount; and;

(2) Deducted from the next available payment to the Contractor.

(End of clause)

AOC52.232-6 PAYMENT BY ELECTRONIC FUNDS TRANSFER - OTHER THAN CENTRAL CONTRACTOR REGISTRATION (JUN 2004)

(a) *Method of payment.* (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT) except as provided in paragraph (a)(2) of this clause. As used in this clause, the term "EFT" refers to the funds transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to delay payment until such time as the Government makes payment by EFT (but see paragraph (d)).

(b) *Mandatory submission of Contractor's EFT information.* (1) The Contractor is required to provide the Government with the information required to make payment by EFT (see paragraph (i) of this clause). The contractor shall provide this information directly to the office designated in paragraph (k) to receive that information (hereafter: "designated office") by three working days after notification of contract award. If not otherwise specified in this contract, the payment office is the designated office for receipt of the contractor's EFT information. If more than one designated office is named for the contract, the contractor shall provide

a separate notice to each office. In the event that the EFT information changes, the contractor shall be responsible for providing the updated information to the designated office(s).

(2) If the contractor provides EFT information applicable to multiple contracts, the contractor shall specifically state the applicability of this EFT information in terms acceptable to the designated office. However, EFT information supplied to a designated office shall be applicable only to contracts that identify that designated office as the office to receive EFT information for that contract.

(c) *Mechanisms for EFT payment.* The Government may make payment by EFT through the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) *Suspension of payment.* (1) Notwithstanding the provisions of any other clause of this contract, the Government is not required to make any payment under this contract until after receipt, by the designated payment office, of the correct EFT payment information from the Contractor. Until receipt of the correct EFT information, any invoice or contract financing request shall be deemed not to be a valid invoice.

(2) If the EFT information changes after submission of correct EFT information, the Government shall begin using the changed EFT information no later than the 30 days after its receipt by the designated office to the extent payment is made by EFT. However, the Contractor may request that no further payments be made until the changed EFT information is implemented by the payment office.

(e) *Liability for uncompleted or erroneous transfers.* (1) If an uncompleted or erroneous transfer occurs because the Government failed to use the Contractor-provided EFT information in the correct manner, the Government remains responsible for--

- (i) Making a correct payment; and
- (ii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because Contractor's EFT information was incorrect at the time of Government release or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment and the provisions of paragraph (d) shall apply.

(f) *EFT and assignment of claims.* If the contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the contractor shall require as a condition of any such assignment that the assignee shall provide the EFT information required by paragraph (i) of this clause to the designated office and shall be paid by EFT in accordance with the terms of this clause. In all respects, the

requirements of this clause shall apply to the assignee as if it were the contractor. EFT information that shows the ultimate recipient of the transfer to be other than the contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of Paragraph (d) of this clause.

(g) *Liability for change of EFT information by financial agent.* The Government is not liable for errors resulting from changes to EFT information provided by the contractor's financial agent.

(h) *Payment information.* The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address in the contract.

(i) *EFT Information.* The contractor shall provide the following information to the designated payment office. The contractor may supply this data for this or multiple contracts (see paragraph (b) of this clause). The Contractor shall designate a single financial agent per contract capable of receiving and processing the EFT information using the EFT methods described in paragraph (c) of this clause. The information required is as follows:

- (1) The contract number;
- (2) The contractor's name and remittance address as stated in the contract(s);
- (3) The signature (manual or electronic, as appropriate), title, and telephone number of the contractor's official authorized to provide this information;
- (4) The name, address, and 9-digit Routing Transit Number of the contractor's financial agent; and
- (5) The contractor's account number and the type of account (checking, saving or lockbox).

(j) The Contractor shall send all EFT information, and any changes to EFT information to the office designated in paragraph (k) of this clause. The Contractor shall not send EFT information to the payment office, or any other office than that designated in paragraph (k). The Government need not use any EFT information sent to any office other than that designated in paragraph (k).

(k) Designated office:

Name:

Architect of the Capital

Accounting Division

Mailing Address:

2nd and D Streets SW
Ford House Office Building
Washington, DC 20515
Telephone:
(202) 226-2552
Facsimile:
(202) 225-7321

(End of clause)

AOC52.232-9 PAYMENT OF INTEREST ON CONTRACTOR CLAIMS (JUN 2004)

(a) If an appeal is filed by the Contractor from a final decision of the Contracting Officer under the Disputes paragraph of this contract, denying a claim arising under the contract, simple interest on the amount of the claim finally determined owed by the Government shall be payable to the Contractor. Such interest shall be at the rate determined by the Secretary of the Treasury pursuant to Public Law 92-41, 85 Stat. 97, from the date the Contractor furnishes to the Contracting Officer his written appeal under the Disputes paragraph of this contract, to the date of (1) a final judgement by a court of competent jurisdiction, or (2) mailing to the Contractor of a change order, or a supplemental agreement for execution either confirming completed negotiations between the parties or carrying out a decision of a contract appeals board.

(b) Notwithstanding Paragraph (a) above, (1) interest shall be applied only from the date payment was due, if such date is later than the filing of appeal, and (2) interest shall not be paid for any period of time that the Contracting Officer determines the Contractor has unduly delayed in pursuing his remedies before a board of contract appeals or a court of competent jurisdiction.

(End of clause)

AOC52.232-12 ASSIGNMENT - SUPPLEMENT (MAR 2005)

Neither the contract nor any interest therein shall be assigned. However, moneys due or to become due under the contract may be assigned in accordance with the provisions of FAR clause 52.232-23 ASSIGNMENT OF CLAIMS.

(End of clause)

AOC52.233-1 DISPUTES (JUN 2004)

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless, within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the head of the agency involved. The decision of the head of the agency or his duly authorized representative for the determination of such appeals shall be final and conclusive. This provision shall not be pleaded in any suit

involving a question of fact arising under this contract as limiting judicial review of any such decision to cases where fraud by such official or his representative or board is alleged; **provided, however**, that any such decision shall be final and conclusive unless the same is fraudulent or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith or is not supported by substantial evidence. In connection with any appeal proceeding under this paragraph, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This paragraph does not preclude consideration of questions of law in connection with decisions provided for in Paragraph (a) above. Nothing in this contract, however, shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

(End of clause)

AOC52.233-2 CLAIMS FOR EQUITABLE ADJUSTMENTS - WAIVER AND RELEASE OF CLAIMS
(JUN 2004)

(a) Whenever the Contractor submits a claim for equitable adjustment under any paragraph of this contract which provides for equitable adjustment of the contract, such claim shall include all types of adjustments in the total amounts to which the paragraph entitles the Contractor, including but not limited to adjustments arising out of delays or disruptions or both caused by such change. Except as the parties may otherwise expressly agree, the Contractor shall be deemed to have waived (1) any adjustments to which it otherwise might be entitled under the paragraph where such claims fail to request such adjustments, and (2) any increase in the amount of equitable adjustments additional to those requested in its claim.

(b) Further, the Contractor agrees that, if required by the Contracting Officer, he will execute a release, in form and substance satisfactory to the Contracting Officer, as part of the supplemental agreement setting forth the aforesaid equitable adjustment, and that such release shall discharge the Government, its officers, agents and employees, from any further claims, including but not limited to further claims arising out of delays or disruptions or both, caused by the aforesaid change.

(End of clause)

AOC52.233-3 LIMITATION ON DAMAGES FOR DELAY (JUN 2004)

(a) The Architect shall not be obligated or liable to the Contractor for, and the Contractor hereby expressly waives any claims against the Architect on account of any damages, of any nature whatsoever, which the Contractor, or its subcontractor at any tier may incur as a result of delays, interferences, disruptions, suspensions, changes in sequence or the like arising from or out of any act or omission of the Architect, it being understood and agreed that the Contractor's sole and exclusive remedies in such event shall be a reimbursement of direct costs necessarily incurred as a result of the foregoing causes, and an extension of the contract time, but only in accordance with the provisions of the Contract Documents.

(b) For the purposes of this clause, the term "Damages" shall include all indirect and/or impact costs which

shall include, without limitation: unabsorbed Home Office Overhead (including calculations under the "Eichleay Formula"), Idle Labor and Equipment, Loss of Productivity, and Interest; the term "Damages" shall not include on-site direct costs, which shall include direct labor (superintendence, labor, time-keeping, and clerical work) direct materials and supplies (including material handling), direct equipment, restoration and cleanup, overhead and profit (but only as permitted under the clauses "Changes" and "Changes - Supplement", taxes, insurance, and bonding costs, which will be calculated in accordance with the clauses "Changes" and "Changes - Supplement". Provided, however, that the accounting practice of treating these costs as "direct" shall be in accordance with

- (1) The Contractor's established and consistently followed cost accounting practices for all work; and
- (2) FAR Cost Accounting Cost Principles and Procedures (FAR Part 31).

(c) To the extent that any other provision of this contract provides for the payment of damages, as defined in this clause, to the Contractor and is thus inconsistent with the provisions of this clause, such other provision will be superseded hereby with respect to the issue of damages.

(End of clause)

FAR 52.236-5 MATERIALS AND WORKMANSHIP (APR 1984)

(a) All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. When directed to do so, the Contractor shall submit samples for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(c) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may require, in writing, that the Contractor remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

(End of clause)

FAR 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT,
UTILITIES, AND IMPROVEMENTS (APR 1984)

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

(End of clause)

AOC52.236-1 ACCESS TO WORK (JUN 2004)

(a) The Contracting Officer or his representative may visit and inspect the Contractor's plant, without advance notice, at any time during the course of this contract, and he shall be granted every available assistance to facilitate such inspection.

(b) The Contracting Officer and proper members of his staff shall at all times have access to the work, and the Contractor shall provide proper and safe facilities for such access and for inspection.

(End of clause)

AOC52.236-2 OTHER CONTRACTS AND WORK (JUN 2004)

(a) The Contractor shall fully inform himself as to conditions relating to construction and labor under which other work, if any, is being performed, or is to be performed, by or for the Government, by contract or otherwise, where such work may affect or be affected by, operations under this Contract.

(b) Notwithstanding the performance by other parties of work at the site during performance of this contract, the Contractor shall prosecute the work diligently and continuously, and he shall cooperate in every way with such other parties. The Contractor shall give such other parties, to the extent their work is affected by his work, all information necessary for the proper execution of their work, without delay. The Contractor shall so arrange and conduct his work that other parties may complete their work at the site according to schedule. All other work under the instant contract shall be carefully coordinated with work under such other contracts.

(End of clause)

AOC52.236-3 ACCIDENT PREVENTION AND SAFETY AND HEALTH PROGRAMS -
CONSTRUCTION (SEP 2004)

(a) The Contractor shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others and comply with the safety and health standards published in 41 C.F.R. Part 50-205, including any matters incorporated by reference therein. He shall also be responsible for all materials delivered and work performed until completion and final acceptance of the entire contract work, except for any completed unit thereof which theretofore may have been finally accepted.

(b) *Williams-Steiger Occupational Safety and Health Act.* The Contractor shall also comply in all aspects of the job with the regulations issued by the Secretary of Labor pursuant to the Williams-Steiger Occupational Safety and Health Act of 1970, as set forth in Title 29 of the Code of Federal Regulations. The Contractor shall bring to the attention of the Architect any work encountered which may involve entry into a suspected confined space as defined by OSHA. A determination will be made by the Architect, and if the area is deemed a permit required confined space, additional protective measures will be needed, per OSHA requirements.

(c) *National Fire Protection Association standards.* The Contractor shall comply with all applicable standards of the National Fire Protection Association relative to fire prevention, except to the extent that more exacting requirements are specified or imposed by the Contracting Officer. The Contractor shall keep and properly maintain fire prevention devices at the job site and shall take all possible precautions deemed necessary by the Government representative in charge of the work.

(d) *Protection of property and persons.* (1) The Contractor shall protect all of his material and work at the site, whether incorporated in the work or not, against damage or loss from any cause, and he shall take all necessary precautions against damage to all other work and material on the site. He shall provide and maintain necessary safeguards for protection of his employees, Government employees and the public generally, and he shall take all other proper precautions for their protection against injury. He shall comply with all directives and regulations of the Contracting Officer and other proper authorities relative to the use of public property.

(2) The Contractor shall protect all electric, telephone, computer facilities, water, gas, sewer, steam and other underground utility lines, in sidewalks, streets or other areas in, under or around the site, to the satisfaction of the Contracting Officer, the Government of the District of Columbia, and all other authorities having jurisdiction.

(3) The performance of work at the site by other parties shall not relieve the Contractor from any liability for loss or damage or from his obligations under this contract. No agreement or arrangement between the Contractor and others as to a division or proportionate share of liability for loss or damage incurred, or of the cost of insurance, shall in any way relieve the Contractor of such liability or his obligations under this contract.

(e) The Contractor shall comply with the requirements of FAR 52.236.13, Accident Prevention. In the event that conditions on the site pose an imminent danger or threat to the Contractor's workers, the public, Government employees, other persons, or to Capitol complex structures and property of historical significance, the Contracting Officer can verbally order the Contractor to suspend work operations in the

specified area until said conditions are corrected to the Contracting Officer's satisfaction. The Contracting Officer shall promptly issue a written order to suspend the work to the Contractor formalizing the specifics of the verbal suspension of work.

(f) The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

(End of clause)

AOC52.236-4 CUTTING AND PATCHING (JUN 2004)

Prior to initiation of the work operations of either cutting or patching, as a necessary requirement of the work under this contract, of any structural component or of lintels, stair systems, piping, duct work, vessels, equipment and like items in the building, the Contractor shall consult with the Contracting Officer and follow explicitly his directions and stated requirements concerning methods, materials, the manner in which the work is performed, and the level of competence and skill possessed by Contractor's employees, or those of subcontractors, who are proposed to be employed in said cutting and/or patching operations.

(End of clause)

AOC52.236-5 CLEANING AND RESTORING (JUN 2004)

(a) The contractor shall remove dirt and debris resulting from the operations under this contract daily.

(b) The Contractor shall, as a condition precedent to the final acceptance of the work, remove from the site of the work all remaining plant, installations, temporary barricades, temporary facilities, equipment, tools, materials, refuse, rubbish and waste, used or accumulated in connection with, but not incorporated in, the work, unless otherwise specified or directed, and he shall leave the buildings, grounds, streets, and all public places occupied by him in a thoroughly clean, neat and satisfactory condition.

(End of clause)

AOC52.236-8 SCHEDULING OF WORK (AUG 2004)

(a) The Contractor shall, before commencing work on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of partial payments until the Contractor submits the required schedule.

(b) The Contractor shall furnish sufficient forces, construction plant and equipment, and shall work such hours as necessary to insure prosecution of work in accordance with the approved schedule. If, in the opinion

of the Contracting Officer, the Contractor falls behind in the scheduled progress, the Contractor shall take such steps as may be necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained. The provisions of this subparagraph shall not be construed as prohibiting work on Saturdays, Sundays and holidays and, for work performed in the District of Columbia, Presidential Inauguration Day, if the Contractor so elects and if approved.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

(End of clause)

AOC52.236-9 SCHEDULE OF VALUES (JUN 2004)

(a) The Contractor shall, in accordance with the requirements of the Contracting Officer, prepare and submit for approval a schedule of estimated values of all parts of the work, and shall submit such quantity breakdowns pertinent thereto as the Contracting Officer may deem necessary for the proper checking of partial payment requisitions and for other administrative purposes. The total of the schedule of values shall equal the amount of the contract. The values employed in making this schedule will be used only for determining partial payments; they will not be used as a basis for determining an increase or decrease in the contract price. The listings and subdivisions of this schedule for estimated costs and quantity breakdowns shall be as approved by the Contracting Officer.

(b) The submission and approval of the schedule of values shall be a condition precedent to the making of partial payments.

(End of clause)

AOC52.236-10 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (JUN 2004)

(a) The Contractor shall keep on the site of the work a copy of the drawings and specifications, and of approved shop drawings, product data and samples and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, or in case of discrepancy either within the figures, within the drawings, or within the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information he considers necessary, unless otherwise provided.

(b) "Shop drawings" means drawings submitted to the Government by the Contractor, subcontractor, any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract.

(c) The Contractor shall submit to the Contracting Officer for approval shop drawings, product data and samples as required under the various sections of this Project Manual. The Contractor shall coordinate all such submittals, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings, product data, or samples submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for re-submission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such submittals, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with Paragraph (d) below.

(d) If shop drawings, product data, or samples show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(e) Upon completing the work under this contract, the Contractor shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the equipment is completed and accepted. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings, product data or samples delivered under this contract.

(f) The provisions of this entire paragraph shall be included in all subcontracts at any tier.

(End of clause)

AOC52.236-12 PRODUCT DATA AND SAMPLES (JUN 2004)

(a) Product data shall mean information (e.g., catalog cuts, standard illustrations, drawings, performance charts, data and brochures) pertinent to a particular product, equipment or material required as a part of the work. Product data is required to establish, for the purposes of evaluation and approval, details of the product offered in response to specifications elsewhere in the contract documents. Product data pertains to significant elements such as (1) design; (2) materials; (3) components; (4) performance characteristics; and (5) methods of manufacture, assembly, construction, or operation. The term includes, in addition to the above, the manufacturer's standard printed recommendations for application and use, compliance with recognized standards of trade associations and testing agencies, and the application of their labels and seals (if any).

(b) Samples are physical examples of materials, equipment or workmanship that will be used by the Contracting Officer to establish standards by which the work will be judged.

(c) Samples not subject to destructive tests may be retained by the Contracting Officer until completion of the work; they will then be returned to the Contractor, at his own expense, if he so requests in writing.

(End of clause)

FAR 52.242-14 SUSPENSION OF WORK (APR 1984)

(a) The Contracting Officer may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the Government.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of the contract, or (2) by the Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this Article for any suspension, delay or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract.

(c) A claim under this article shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

(End of clause)

FAR 52.243-4 CHANGES (AUG 1987)

(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes-

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of this work;
- (3) In the Government-furnished facilities, equipment, materials, services, or site; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; Provided, that the Contractor gives the Contracting Officer written notice stating-

- (1) The date, circumstances, and source of the order; and
- (2) That the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Contracting Officer a written statement describing the general nature and amount of the proposal, unless this period is extended by the Government. The statement of the proposal for adjustment may be included in the notice under paragraph (b) of this clause.

(f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract

(End of Clause)

AOC52.243-1 CHANGES - SUPPLEMENT (JUN 2004)

(a) *Definitions.* (1) A "change order" is a unilateral contract modification, signed by the Contracting Officer, which describes and identifies a particular change in the requirements as permitted by the FAR clause, 52.243-4, "Changes" and authorizes the contractor to begin performance with the changed requirements. The change order may reference pertinent oral or written directives, provide an adjustment to the contract price and/or time for performance, and direct the contractor to submit a proposal for definitization of the change order.

(2) A "supplemental agreement" is a bilateral contract modification, signed by the contractor and the Contracting Officer, which either authorizes the contractor to begin performance with the changed requirements in accordance with the equitable adjustment agreed to prior to commencement of performance of the changed requirements or definitizes a change order after agreement of an equitable adjustment to the contract.

(3) Request for Proposal. A request by the Contracting Officer or his duly authorized representative for the contractor to submit a proposal for requirements contemplated to be changed. Such proposal shall be submitted within the time limit specified in the request and in accordance with the requirements and limitations of this clause.

(b) *Authorization of changes.* All changes to contract requirements will be authorized in writing by the Contracting Officer through one of the following methods:

- (1) A Supplemental Agreement, with the concurrence of the contractor; or
- (2) A unilateral Change Order.

(c) *Submission of proposals and cost breakdowns by the contractor.*

(1) Proposals for changes to the contract requirements shall include a brief description of the change; a breakdown of costs as outlined hereinafter; and a time impact analysis (fragnet).

(2) In considering proposals for changes involving added requirements, omitted requirements, or any combination thereof, the Contracting Officer or his duly authorized representative will make check-estimates in such detail as he deems necessary with the view of arriving at equitable adjustments. With each proposal, the contractor shall submit separately an itemized breakdown as per "Exhibit A" hereof, which shall include, but not be limited to, the following:

- (i) Direct labor costs;
- (ii) Social Security and Unemployment Insurance Taxes;
- (iii) Workmen's compensation and general liability insurance;
- (iv) Direct material quantities and unit prices (separated into trades);
- (v) Construction equipment;
- (vi) Overhead; and
- (vii) Profit.

(3) If the contractor believes that the change in the contract requirements affects the contract period of performance, as required by AOC52.211-5, Commencement, Prosecution, and Completion of Work, of the Supplementary Conditions, appropriate substantiation must be submitted for evaluation/review.

(4) A complete proposal, including breakdown of cost and time impact, shall be submitted by the contractor within the time frame stipulated in calendar days by the Government for each proposed change. Generally, complete proposals shall be submitted by the contractor within 7 calendar days after the contractor receives the request for proposal, although this time frame may be adjusted for more complex or more urgent

requirements. Except as provided by an individual contract modification, no payment for a change order will be made until a supplemental agreement has been signed by the contractor and the Contracting Officer. If complete proposals are not received timely, the Contracting Officer, after consultation with his authorized representative, may determine the cost of the change and the time impact and issue a change order based upon this determination with the stipulation that if a supplemental agreement is not negotiated within a reasonable amount of time, this determination will be final and conclusive, subject only to the contractor's rights of appeal as provided in AOC52.233-1, Disputes, of the General Conditions.

(d) *Allowances for overhead and profit.* (1) The following percentages will be allowed for overhead and profit:

(i) The contractor shall receive, as a percentage of the cost of all work performed by his own organization, an amount not to exceed 10% overhead and not to exceed 10% profit; and

(ii) If subcontractor(s) are involved in the change, a fee in an amount not to exceed 10% as a percentage of the total price of the subcontractor portion of the change.

(iii) Subcontractor(s) to the prime contractor (first tier subcontractor(s)) shall receive, as a percentage of the cost of all work performed by or for it, a total amount not to exceed 10% overhead and not to exceed 10% profit.

(iv) The percentages for fees, overhead, and profit permitted by the above shall be allowed only for the contractor and its first tier subcontractors. Percentages for fees, overhead, and profit in any amount will not be allowed for subcontractors of any other tier.

(2) Percentages for overhead allowed are deemed to include, but shall not be limited to, the following:

(i) Field Overhead Items.

(A) Trailer;

(B) Storage Facilities;

(C) Contractor's and subcontractor's superintendence;

(D) Construction equipment/tools, except those that are specially required for a specific change;

(E) Utilities;

(F) Contractor's and subcontractor's field office, administrative/support staff;

(G) Cost of preparing record drawing changes, correspondence, etc., relating to the contract;

(H) Job site safety aids; and

(I) Cleaning and maintenance of nuisance debris from jobsite.

(ii) Office Overhead Items for Contractor and Subcontractors.

(A) Maintenance/operation of principal or branch offices;

(B) Personnel costs;

(C) Cost for preparing correspondence, fragnets, etc., relating to the contract; and

(D) Cost of insurance and bonds, except for insurance costs relating to direct labor, as outlined in "Exhibit A" .

(iii) For changes which include custom items unique to the project and which are fabricated off-site, the fabricator, whether the contractor or a subcontractor at any tier, shall furnish a breakdown of costs associated with the work in the fabricating plant. This breakdown shall include labor, material, equipment and overhead/plant costs in sufficient detail to allow for review by the Contracting Officer or his duly authorized representative. Costs charged to overhead/plant shall be allowable costs for the fabricator, whether he is the contractor or a subcontractor at any tier, provided that the costs claimed are consistent with the provisions of Subpart 31.203 of the Federal Acquisition Regulation (Chapter 1, Title 48, Code of Federal Regulations). An amount not to exceed 10% of the cost of the fabricated item will be allowed for the fabricator's profit. If the fabricator is a subcontractor, the overhead and profit percentages for the contractor and any subcontractor at a higher tier having a contractual relationship with the fabricator shall be allowed in accordance with this clause.

(e) *Changes involving decreases in price.* For changes involving only a decrease in price, the contractor and subcontractors shall return as credit for overhead and profit those same percentages which are allowed for like changes involving increases in price. On changes involving both an increase and a decrease in price, overhead and profit will be allowed only on the net increase.

(f) *Changes involving increases or decreases on basis of contract specified unit prices.* No percentages for overhead and profit will be added to, or deleted from, any unit prices in event of an increase or decrease in the contract requirements on the basis of contractual unit prices.

EXHIBIT A
TYPICAL FORM OF BREAKDOWN FOR PRICE ADJUSTMENT

SUBCONTRACTORS' BREAKDOWN

Items Involved	Quantities	Unit Cost	Equipment	Material	Labor	Extensions		Unit Cost
						Totals	Final Totals	
Excavation (Identify)								
• Volume								
• Crane Operator								
• Laborers								
Shoring (Identify)								
• Area								
• Welder								
Subcontractor Total								

PRIME CONTRACTOR'S BREAKDOWN

Items Involved	Quantities	Unit Cost	Equipment	Material	Labor	Extensions		Unit Cost
						Totals	Final Totals	
West Wall (Cinder Block)								
• Area								
• Block 8x8x16								
• Mortar								
• Mason								
• Laborer								

Subtotal								
Prime Contractor's Total								
Prime Contractor's Overhead and Profit on Subcontractor								
Total								

(End of clause)

AOC52.244-1 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK (SEP 2005)

(a) The Contractor is responsible for coordination of all work performed by its own workforce and those of its subcontractors. Each subcontractor shall be experienced in and capable of performing in a satisfactory manner all work in his/her speciality, and shall meet the standard of competence established for the Contractor.

(b) The Contractor shall be responsible for all acts of subcontractors employed by him under this contract, and for their compliance with all terms and provisions of the contract applicable to their performance. The Contractor shall continuously coordinate the work of all sub-contractors to assure proper processing and progress of the Work. The Contractor shall require each subcontractor to (1) examine the project schedule, shop drawings and the work of other trades and all sections of the specifications to the extent necessary for satisfactory installation of his work, and connection between his work and the work of other trades; (2) coordinate his work accordingly; and (3) cooperate with other trades toward timely and satisfactory completion of the entire Work.

(c) Organization of the specifications into sections and subsections and the arrangement of drawings shall not control the Contractor in dividing work among subcontractors or in establishing the extent of work to be performed by any trade.

(d) The Government reserves the right to require dismissal of any subcontractor who, by reason of previous unsatisfactory work on AOC projects or for any other reason, is considered by the Contracting Officer to be incompetent or otherwise objectionable for performing work under this contract.

(e) Nothing contained in the contract documents shall create any contractual relations between any subcontractor and the Government.

(End of clause)

AOC52.245-2 GOVERNMENT-FURNISHED PROPERTY (NOV 2004)

- (a) For the purposes of this clause, Government-furnished “property” includes cell phones and telephones, personal digital assistants, computers (including laptops), electronic devices, services such as network access, tools, furnished space, storage, utilities, furnishings, equipment, and any other item or service provided by the AOC to the contractor.
- (b) No AOC equipment or property can be provided under this contract unless specifically negotiated as part of the award price. If, after contract award, it becomes necessary or advisable to issue AOC property to the contractor, the contract price shall be reduced by a reasonable amount that reflects the price the contractor would pay if providing the property.
- (c) The Contracting Officer’s Technical Representative (COTR) for this contract is responsible for coordinating the issuance and return of Government-furnished property.
- (d) Any Government-furnished property provided to the contractor for use during performance of this contract shall be issued to the contractor’s representative and recorded on AOC Form 1423, AOC PROPERTY ISSUED TO CONTRACTORS. The contractor’s representative shall be responsible for the ensuring the proper care and use of the Government-furnished property, whether used by the contractor representative or another contractor employee. Government-furnished property provided by the AOC can be used only for the conduct of official business on behalf of the AOC. The contractor is specifically prohibited from using AOC-furnished property for personal use or to conduct operations that benefit other Government agency contracts or other contractor activities that do not directly support AOC contracts.
- (e) All information technology property that requires interface or connection to the AOC network must be provided by the AOC. The use of non-AOC IT property that requires interface or connection to the AOC network is strictly prohibited.
- (f) All contractor employees who require access to the AOC network or who are issued a personal digital assistant must complete and sign the “Non-disclosure Agreement for Contract Employees Conditional Access to Sensitive but Unclassified Information for The Architect of The Capitol” before access will be granted. The COTR is responsible for providing the non-disclosure agreements to the AOC Office of Information Resources Management.
- (g) All Government-furnished property shall be returned by the contractor to the COTR in the same condition as issued, with allowances for wear and tear that occurs with reasonable care and use. Failure to return Government-furnished property or the return of Government-furnished property that has not been properly maintained and used may result in a reduction to the contract price that reflects the market replacement value of the property or the market price to repair or restore the property to its condition when issued to the contractor.

(End of clause)

AOC52.246-1 FINAL INSPECTION AND ACCEPTANCE - CONSTRUCTION - SUPPLEMENT
(SEP 2005)

(a) No inspection or other action of the Government shall be construed to constitute a final acceptance of any portion of the work under this contract until all work under the contract is completed. None of the work under the contract shall be deemed to be finally accepted until the Contractor, upon completion and final inspection of all work, is notified in writing of final acceptance of work under the contract, or in lieu thereof, until final payment of the final voucher as prescribed in FAR 52.232-5, Payments Under Fixed-Price Construction Contracts. The provisions of FAR clause 52.246-12, Inspection of Construction are hereby modified by the provisions of this paragraph with respect to the finality of acceptance of any portion of the work by the Government prior to completion of all work under the contract.

(b) The Contractor shall notify the Contracting Officer, at least 10 days in advance, of the date the work will be fully complete and ready for final inspection. Any additional costs incurred by the Government due to necessary reinspection of work found not ready for final inspection upon the Contractor's notice of completion will be charged to the Contractor and deducted from the contract price.

(End of clause)

AOC52.246-6 ADDITIONAL WARRANTY COVERAGE (JUN 2004)

If the Contractor receives from any manufacturer, supplier or subcontractor additional warranty coverage on the whole or any component of the work required by this contract, in the form of time including any pro rata arrangements, or the Contractor generally extends to his commercial customers a greater or extended warranty coverage, the Government shall receive corresponding warranty benefits.

(End of clause)

FAR 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these addresses: www.gsa.gov or www.govcon.com

<u>CLAUSE TITLE</u>	<u>DATE</u>	<u>FAR NUMBER</u>
GRATUITIES	APR 1984	52.203-3
COVENANT AGAINST CONTINGENT FEES	APR 1984	52.203-5
RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT	JUL 1995	52.203-6
ANTI-KICKBACK PROCEDURES	JUL 2005	52.203-7
CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	JAN 1997	52.203-8
PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED		

FOR DEBARMENT	JAN 2005	52.209-6
AUDIT AND RECORDS - NEGOTIATION	JUN 1999	52.215-2
CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION	JUL 2005	52.222-4
DAVIS-BACON ACT	JUL 2005	52.222-6
WITHHOLDING OF FUNDS	FEB 1988	52.222-7
PAYROLLS AND BASIC RECORDS	FEB 1988	52.222-8
APPRENTICES AND TRAINEES	JUL 2005	52.222-9
COMPLIANCE WITH COPELAND ACT REQUIREMENTS	FEB 1988	52.222-10
SUBCONTRACTS (LABOR STANDARDS)	JUL 2005	52.222-11
CONTRACT TERMINATION - DEBARMENT	FEB 1988	52.222-12
COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS	FEB 1988	52.222-13
DISPUTES CONCERNING LABOR STANDARDS	FEB 1988	52.222-14
CERTIFICATION OF ELIGIBILITY	FEB 1988	52.222-15
PROHIBITION OF SEGREGATED FACILITIES	FEB 1999	52.222-21
PREVIOUS CONTRACTS AND COMPLIANCE REPORTS	FEB 1999	52.222.22
EQUAL OPPORTUNITY	APR 2002	52.222-26
AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION	FEB 1999	52.222-27
EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA AND OTHER ELIGIBLE VETERANS	DEC 2001	52.222-35
AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	JUN 1998	52.222-36
EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS ON THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS	DEC 2001	52.222.37
COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS	DEC 2001	52.222-38
DRUG-FREE WORKPLACE	MAY 2001	52.223-6
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IRREVOCABLE LETTER OF CREDIT	DEC 1999	52.228-14
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USE AND POSSESSION PRIOR TO COMPLETION	APR 1984	52.236-11
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SUPPLEMENTARY CONDITIONS

AOC52.201-1 CONTRACTING OFFICER'S AUTHORITY (JUN 2004)

The Contracting Officer is the only person authorized to make or approve any changes in any of the requirements of this contract, notwithstanding any provision contained elsewhere in this contract. In the event that the Contractor makes any change at the direction of any person other than the Contracting Officer, the change will be considered to have been made without authority and no adjustment will be made in the contract price to cover any increase in costs incurred as a result thereof.

(End of clause)

AOC52.201-2 CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR) (MAR 2005)

The Government shall provide the name, address and telephone number of the COTR at the time of contract award and the duties thereby delegated to that person. Any subsequent change to the individual or the individual's responsibilities will be confirmed in writing by the Contracting Officer. In no instance will the COTR be delegated authority to order any change in the contractor's performance which would affect (a) cost or schedule for contracts for services or supplies, or (b) scope, the completion date for intermediate phases or milestones, or overall completion date for contracts for construction.

(End of clause)

FAR 52.211-12 LIQUIDATED DAMAGES (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of **\$1200.00** for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

FAR 52.211-13 TIME EXTENSIONS (SEP 2000)

Time extensions for contract changes will depend upon the extent, if any, by which the changes cause delay in the completion of the various elements of construction. The change order granting

the time extension may provide that the contract completion date will be extended only for those specific elements related to the changed work and that the remaining contract completion dates for all other portions of the work will not be altered. The change order also may provide an equitable readjustment of liquidated damages under the new completion schedule.

(End of clause)

**AOC52.211-5 COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK
(SEP 2004)**

(a) All work to be performed under this contract shall be completed within **270 calendar days** after notice of contract award. No work under this contract shall be performed on Saturdays, Sundays or Federal holidays and, for work performed in the District of Columbia, Presidential Inauguration Day, except with prior approval of the Contracting Officer.

(b) Time for completion of the contract work will be adjusted only in accordance with applicable clauses in the GENERAL CONDITIONS (e.g., "Differing Site Conditions", "Changes", "Changes - Supplement", "Suspension of Work").

(End of clause)

AOC52.223-5 SPECIAL SECURITY REQUIREMENTS - SERVICES (MAR 2006)

(a) All vehicles, and contents, used by the Contractor or his subcontractors, which enter or leave United States Government property during performance of the work, will be subject to clearance, inspection and identification procedures conducted by the United States Capitol Police. See the attachment entitled "U.S. CAPITOL POLICE NOTICE" for instructions prior to delivery.

(b) All persons entering the Legislative Branch Buildings shall gain access to the building by passing through x-ray screening devices. In addition, all handbags and all hand-carried items shall be screened by x-ray devices prior to their entry into the building.

(c) All personnel provided by the Contractor and employed on the site of the work will be subject to a security background investigation. Each employee will be required to fill out an I.D. Request Form and U.S. Capitol Police Request for check of Criminal History Records and each employee will be photographed and fingerprinted. The Contractor shall provide any assistance required by any of its employees in completing the forms.

(d) Prior to commencement of work, the contractor and all designated on-site employees will be required, on a one-time basis, to be fingerprinted in Washington D.C. The location for the Electronic Fingerprinting Service is the U.S. Capitol Hill Police, Fairchild Building, 499 South Capitol Street SW, Washington, DC 20003.

(e) Within seven (7) calendar days after the date of contract award, the Contractor shall submit to the Contracting Officer's Technical Representative (COTR) a list of all employees proposed to be employed on this contract. This list shall include the employee's full name, date of birth and social security number.

(f) While security background investigations are in process, the Contractor's employees must not be granted access to the Capitol Hill complex to perform work or provide services for the AOC unless they are escorted by an AOC staff member. "Escorted" is defined to mean that the AOC staff member will remain with the employee(s) **at all times** during the performance of the work. Any of the Contractor's employees who are perceived by the Contracting Officer as a security risk as a result of evidence discovered in the background security investigation, will not be issued an Identification Card, will be denied access to the site of the work, and the Contractor will be directed to remove such employee from performance of any of the contract work, whether it be on or off the work site. Any contractor employee denied access to the site of work on a contract or task/delivery order as a result of a security investigation may not apply for access to any other AOC/U.S. Supreme Court contract or task/delivery order work site.

(g) An identification card, with photograph, will be prepared for each employee of the Contractor requiring access to the site. The identification card shall be dated to indicate the period of time for which it is to remain valid - from the date the employee reports for duty until the applicable date which occurs first: the expiration of the contract, or the last date of the employee's tour of duty with the Contractor. All contractor personnel must wear the ID badge whenever on the Capitol complex premises or when attending off-site functions on behalf of the AOC. ID badges must be worn in such a manner that contractor personnel can be easily identified as such.

(h) All persons entering the Legislative Branch Buildings shall gain access to the building by passing through a magnetometer. In addition, all handbags and all hand-carried items shall be screened by x-ray devices prior to their entry into the building.

(i) The Contractor is fully responsible to return:

(1) The ID badge of any individual employee, including subcontractor personnel, who is removed for any reason including but not limited to illness, or dismissal;

(2) The ID badges of all contractor employees, including subcontractor personnel, whose performance under the contract is completed in advance of final contract job completion; and

(3) All outstanding ID badges issued for the contractor and its employees, including subcontractor personnel, within 24 hours of on site contract job completion.

(j) ID badges are to be hand delivered by the contractor within 24 hours of any of the events

listed under (f) above to the Contracting Officer's Representative.

(End of clause)

AOC52.223-8 DELIVERY VEHICLE INSPECTION REQUIREMENTS (MAR 2006)

(a) All vehicles and contents used by the Contractor or his subcontractors which enter or leave United States Government property during performance of work under this contract will be subject to clearance, inspection, and identification procedures conducted by the United States Capitol Police.

(b) *Mobile Vehicle and Cargo Inspection System (Mobile VACIS).* All delivery vehicles carrying fuel, garbage, or similar cargo that cannot be offloaded for inspection and security screening shall utilize the Mobile VACIS located at Third and Pennsylvania Avenue, NW, Washington, DC, for inspection prior to making deliveries to any building within the Capitol Complex, including, but not limited to, the U.S. Capitol Building; the U.S. Botanic Garden; the Hart, Dirksen, and Russell Senate Office Buildings; the Rayburn, Longworth, Cannon, and Ford House Office Buildings; the Thomas Jefferson, John Adams, and James Madison Memorial Library of Congress buildings; the Capitol Power Plant; the Capitol Visitors Center; and the U.S. Supreme Court and Thurgood Marshall Federal Judiciary Buildings.

(1) For deliveries requiring Mobile VACIS inspection, within seven calendar days or prior to the first delivery, the contractor shall provide the following information to the U.S. Capitol Police:

- (i) List of drivers;
- (ii) Date of birth for each driver;
- (iii) Social Security Number of each driver;
- (iv) Vehicle make;
- (v) Vehicle model;
- (vi) License tag number and state where vehicle is licensed;
- (vii) Color of vehicle; and
- (viii) Contractor name, if shown on the vehicle.

(2) Information for deliveries made through the Mobile VACIS unit must be faxed to (202) 228-4313. For verification of receipt, the contractor may call (202) 224-9728.

(3) Updates to the above information for Mobile VACIS deliveries must be sent to the U.S. Capitol Police throughout the period of performance of the contract.

(c) *4700 Shepherd Parkway SW inspection facility.* All other vehicles making deliveries to the above listed locations except for the Thomas Jefferson, John Adams, and James Madison Memorial Library of Congress buildings and the U.S. Supreme Court shall utilize the off-site inspection and screening facilities at 4700 Shepherd Parkway SW, Washington DC 20032.

(End of clause)

AOC52.236-11 SUBMITTALS (JUN 2004)

(a) The Contractor shall deliver all required submittals within the times specified elsewhere in this contract. Unless specifically stated otherwise, four (4) sets of each item shall be delivered by the contractor to the Contracting Officer's Technical Representative. An in-depth description of these submittals can be found in the appropriate technical sections of the specification. Any Schedule of Work prepared shall reflect delivery of these items. Failure to provide timely delivery of these submittals may be considered to be grounds for termination for default.

(b) The Government will review the submittals and either approve them as submitted, or mark required changes on them. If changes are required, the Contractor shall deliver revised submittals for approval by the Government which incorporate all of the required changes within two weeks after receipt by the Contractor of the marked-up submittals.

(End of clause)

END OF SUPPLEMENTARY CONDITIONS

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**REPRESENTATIONS, CERTIFICATIONS,
AND OTHER STATEMENTS OF OFFERORS**

FAR 52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION
(APR 1985)

(a) The offeror certifies that -

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to –

- (i) Those prices;
- (ii) The intention to submit an offer; or
- (iii) The methods or factors used to calculate the prices offered;

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory -

(1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this provision; or

(2)(i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this provision

[insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or per position in the offeror's organization];

- (ii) As an authorized agent, does certify that the principals named in

subdivision (b)(2)(i) of this provision have not participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this provision; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies paragraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

FAR 52.204-3 TAXPAYER IDENTIFICATION (OCT 1998)

(a) *Definitions.* "Common parent," as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

"Taxpayer Identification Number (TIN)," as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) *Taxpayer Identification Number (TIN).*

_____ TIN: _____.

_____ TIN has been applied for.

_____ TIN is not required because:

_____ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does

not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

_____ Offeror is an agency or instrumentality of a foreign government;

_____ Offeror is an agency or instrumentality of a Federal government;

(e) *Type of organization.*

_____ Sole proprietorship;

_____ Partnership;

_____ Corporate entity (not tax-exempt);

_____ Corporate entity (tax-exempt);

_____ Government entity (Federal, State, or local);

_____ Foreign government

_____ International organization per 26 CFR 1.6049-4;

_____ Other _____

(f) *Common Parent.*

_____ Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

_____ Name and TIN of common parent:

Name _____

TIN _____

(End of provision)

AOC52.204-2 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (JUN 2004)

(a) The offeror shall enter, in the space provided below, the DUNS number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number is a nine-digit

number assigned by Dun and Bradstreet Information Services.

(b) If the offeror does not have a DUNS number, it should contract Dun and Bradstreet directly to obtain one. A DUNS number will be provided immediately by telephone at no charge to the offeror. For information on obtaining a DUNS number, the offeror, if located within the United States, should call Dun and Bradstreet at 1-800-333-0505. The offeror should be prepared to provide the following information:

- (1) Company name,
- (2) Company address;
- (3) Company telephone number;
- (4) Line of business;
- (5) Chief executive officer/key manager;
- (6) Date the company was started;
- (7) Number of people employed by the company; and
- (8) Company affiliation.

(c) Offerors located outside the United States may obtain the location and phone number of the local Dun and Bradstreet Information Services office from the Internet home page at <http://www.customerservice@dnb.com>. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at globalinfo@mail.dnb.com.

(d) Enter DUNS number:_____.

(End of provision)

AOC52.204-3 REPRESENTATIONS AND CERTIFICATIONS (NOV 2004)

The offeror shall properly execute and submit with its offer the Representations and Certifications contained herein. Insert information in spaces provided as applicable.

(End of provision)

FAR 52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION,
PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY
MATTERS (DEC 2001)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that—

(i) The offeror and/or any of its Principals –

(A) Are () are not () presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have () have not (), within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are () are not () presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.

(ii) The Offeror has () has not (), within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) “Principals,” for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plan manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(c) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(d) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror’s responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(e) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of

this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(f) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

AOC52.215-8 AUTHORIZED NEGOTIATORS (JUN 2004)

The offeror represents that following persons are authorized to negotiate on its behalf with the Government in connection with this Request for Proposal:

<u>Name</u>	<u>Title</u>
<u>Telephone:</u>	<u>E-Mail:</u>

<u>Name</u>	<u>Title</u>
<u>Telephone:</u>	<u>E-Mail:</u>

<u>Name</u>	<u>Title</u>
<u>Telephone:</u>	<u>E-Mail:</u>

(End of provision)

END OF REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS

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SOLICITATION CONDITIONS

FAR 52.211-6 BRAND NAME OR EQUAL (AUG 1999)

(a) If an item in this solicitation is identified as “brand name or equal,” the purchase description reflects the characteristics and level of quality that will satisfy the Government’s needs. The salient physical, functional, or performance characteristics that “equal” products must meet are specified in the solicitation.

(b) To be considered for award, offers of “equal” products, including “equal” products of the brand name manufacturer, must—

(1) Meet the salient physical, functional, or performance characteristic specified in this solicitation;

(2) Clearly identify the item by—

(i) Brand name, if any; and

(ii) Make or model number;

(3) Include descriptive literature such as illustrations, drawings, or a clear reference to previously furnished descriptive data or information available to the Contracting Officer; and

(4) Clearly describe any modifications the offeror plans to make in a product to make it conform to the solicitation requirements. Mark any descriptive material to clearly show the modifications.

(c) The Contracting Officer will evaluate “equal” products on the basis of information furnished by the offeror or identified in the offer and reasonable available to the Contracting Officer. The Contracting Officer is not responsible for locating or obtaining any information not identified in the offer.

(d) Unless the offeror clearly indicates in its offer that the product being offered is an “equal” product, the offeror shall provide the brand name product referenced in the solicitation.

(End of provision)

AOC52.215-1 INSTRUCTIONS TO OFFERORS (FEB 2005)

(a) *Definitions.* As used in this provision --

“Proposal modification” is a change made to a proposal before the solicitation’s closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award. “Proposal revision” is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

“Time,” if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays, including Presidential Inauguration Day. However, if the last day falls on a Saturday, Sunday, or legal holiday, including Presidential Inauguration Day, then the period shall include the next working day.

(b) Offerors are expected to examine the entire solicitation and all instructions. Failure to do so will be at the offeror’s risk. Each offeror shall furnish the information required by the solicitation. The offeror will be held responsible for full knowledge of all information contained therein.

(c) *Packaging, transmission, and tracking of proposals.* (1) Proposals, modifications, and revisions shall be enclosed, in the quantities specified elsewhere in this solicitation, in sealed envelopes. With each copy of the form entitled “SOLICITATION, OFFER, AND AWARD (Construction, Alteration, or Repair)”, enclose the completed Schedule page, Bid Guarantee, if required, and Representations and Certifications. Address envelopes to: Architect of the Capitol, Procurement Division, Ford House Office Building, Attn: Fred Witcher, Room H2-263 Bid Room, Second and “D” Streets, S.W., Washington, DC 20515. Offeror shall place the OF-17, Offer Label, on the exterior of the package on the same side as the address, or write “Bid Documents Enclosed”, “H2-263 Bid Room”, and write the solicitation number, time and date for receipt of offers on the exterior of the package on the same side as the address. Telegraphic or facsimile proposals and modifications will not be considered.

(2) Current security requirements established by the U.S. Capitol Police to screen mail being delivered to the U.S. Capitol Complex of buildings preclude the use of U. S. Postal Service by offerors to deliver their proposals submitted in response to this solicitation. In addition, because all packages must be screened for security purposes at a central location prior to their delivery, the Architect of the Capitol cannot accept packages containing offers hand carried directly to the Bid Room address within the Ford House Office Building, or any other location in the U.S. Capitol Complex of buildings. **See “Notice for Delivery” on the front of the solicitation.**

(3) To assist in tracking of proposals, offerors are requested to fax a copy of their signed “Solicitation, Offer and Award” form as well as a copy of the FEDEX or UPS receipt to Fred Witcher to (866) 539-4925 at the time of the issuance of their proposal.

(4) The only acceptable method by which offerors can deliver their responses to this solicitation shall be via Federal Express (FEDEX) or United Parcel Service (UPS). Offers submitted via any other method will be rejected. **OFFERORS - DO NOT MAIL YOUR OFFER BY REGULAR U.S. MAIL.** See notice attached to this solicitation for special instructions.

(d) *Submission, modification, revision, and withdrawal of proposals.* (1) Offerors are

responsible for submitting proposals and any modifications or revisions so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m. local time, for the designated Government office on the date that the proposal or revision is due. For the purposes of determining timeliness, the designated Government office is defined as the Pitney Bowes Management Services Capitol Heights Mail Facility at 9140 East Hampton Drive, Capitol Heights, Maryland 20743.

(2) Any proposal, modification, or revision received at the Government office designated in the solicitation after the exact time specified for receipt of offers is “late” and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition, and-

(i) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals;

(ii) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government’s control prior to the time set for receipt of proposals; or

(iii) It is the only proposal received.

(3) However, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(4) Acceptable evidence to establish the date of receipt at the Government installation includes the time/date stamp of that installation on the offer wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(5) If an emergency or unanticipated event interrupts normal Government processes so that offers cannot be received at the Government office designated for receipt of proposals by the exact time specified in the solicitation and urgent Government requirements preclude amendment of the solicitation, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(6) Proposals may be withdrawn by written notice received at any time before award. Proposals may be withdrawn in person by an offeror or an authorized representative if the identity of the person requesting withdrawal is established and the person signs a receipt for the proposal before award.

(End of provision)

AOC52.215-2 INTERPRETATIONS AND AMENDMENTS (JUN 2004)

(a) Any prospective offeror desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing no later than fourteen calendar days prior to the date established for receipt of offers. Oral explanations or instructions given before the award of a contract will not be binding.

(b) Prospective offerors shall request the Contracting Officer, in writing, via FAX or e-mail for an interpretation or correction of any ambiguity, inconsistency, or error in the contract documents which they may discover or which should have been discovered by a reasonably prudent offeror. Such requests or objections to materials or methods of construction shown or specified shall be directed to the attention of the Contracting Officer at least fifteen (15) calendar days prior to the date specified for receipt of proposals. Written requests shall be transmitted via e-mail to fwitcher@aoc.gov or via facsimile to (866) 539-4925.

(c) Any interpretations or corrections, as well as any additional modifications the Contracting Officer may desire to include, will be in the form of amendments, in writing, which will be sent on the same date to all offerors if that information is necessary in submitting offers or if the lack of it would be prejudicial to other prospective offerors and shall become a part of any subsequent contract. The Contracting Officer reserves the right to answer only such questions as have, in his opinion, a definite bearing upon the proposals to be submitted.

(1) Offerors shall acknowledge the receipt of all amendments to the solicitation by:

(i) Signing and returning the amendment;

(ii) Identifying the amendment number and date in the space provided for this purpose on the form for submitting a offer;

(iii) Letter or telegram; or

(iv) Facsimile, if facsimile offers are authorized in the solicitation.

(2) The Government must receive the acknowledgment by the time and at the place specified for receipt of offers.

(d) Requests for oral interpretations or any other interpretations not made by amendments will not be accepted, and any information that may possibly be gained by offerors in that manner is gratuitous and not binding.

(e) If this solicitation is amended, all terms and conditions that are not amended remain unchanged.

(End of provision)

AOC52.215-3 RESTRICTION ON DISCLOSURE AND USE OF DATA (JUN 2004)

Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall–

- (a) Mark the title page with the following legend:
“This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed--in whole or in part--for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of--or in connection with--the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government’s right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets (insert numbers or other identification of sheets)”;
- (b) Mark each sheet of data it wishes to restrict with the following legend:
“Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.”

(End of provision)

AOC52.215-4 CONTRACT AWARD (JUN 2004)

- (a) The Government will evaluate offers in response to this solicitation without discussions and will award a contract to the responsible offeror whose offer, conforming to the solicitation, will be most advantageous to the Government considering only price and the price-related factors specified elsewhere in the solicitation. Therefore, the offeror’s initial proposal should contain the offeror’s best terms from a price standpoint. The Government reserves the right to conduct discussions.
- (b) The Government may–
 - (1) Reject any or all offers;
 - (2) Accept other than the lowest offer; and
 - (3) Waive informalities or minor irregularities in offers received.
- (c) The Government may accept any item or combination of items, unless doing so is precluded by a restrictive limitation in the solicitation or the offer.
- (d) A written award or acceptance of offer mailed or otherwise furnished to the successful offeror

within the time for acceptance specified in the offer shall result in a binding contract without further action by either party. Before the offer's specified expiration time, the Government may accept an offer (or part of an offer as provided in Paragraph (c) of this clause), whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received before award. Negotiations conducted after receipt of an offer do not constitute a rejection or counteroffer by the Government.

(e) Neither financial data submitted with an offer, nor representations concerning facilities or financing, will form a part of the resulting contract. However, if the resulting contract contains a clause providing for price reduction for defective cost or pricing data, the contract price will be subject to reduction if cost or pricing data furnished is incomplete, inaccurate, or not current.

(f) The Government may determine that an offer is unacceptable if the prices proposed are materially unbalanced between line items or sub line items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.

(End of provision)

AOC52.215-7 PREPARATION OF PROPOSALS - CONSTRUCTION (JUN 2004)

(a) Offers shall be submitted, in the quantities as stated elsewhere in this solicitation, on the accompanying printed form entitled, "SOLICITATION, OFFER, AND AWARD (Construction, Alteration, or Repair)" and copies thereof, with blank spaces suitably filled in. Erasures or other changes on any or all submissions shall be initialed by the signer of the offer.

(b) Copies of the offer shall be identical and each copy shall give the full business address of the offeror, and be signed by him (see Block 20B of the form entitled, "SOLICITATION, OFFER, AND AWARD (Construction, Alteration, or Repair)") with his usual signature. Offer by partnerships shall furnish the full names of all partners, and shall be signed with the partnership name by one of the members of the partnership or by an authorized representative, followed by the signature and designation of the person signing. Offers by corporations shall be signed with the legal name of the corporation, followed by the name of the State of incorporation and by the signature and designation of the president, secretary, or other person authorized to bind it in the matter. The name of each person signing shall be typed or printed below the signature. An offer by a person who affixes to his signature the word "president", "Secretary", "agent", or other designation, without disclosing his principal, may be held to be the offer of the individual signing. When requested by the Government, satisfactory evidence of the authority of the offer signing in behalf of the corporation shall be furnished.

(c) A firm, fixed-price shall be entered by each offeror on the Schedule page for each line item (line item pricing, options, and unit prices) which shall represent the cost for performing the work required by this Request for Proposal. The Architect reserves the right to request from each offeror information regarding the breakdown of all costs that are included in the lump sum price (Line Item 0001), to include copies of all work sheets used in forming the proposed pricing. Erasures or other changes on any or all submissions shall be initialed by the signer of the proposal or by his duly authorized agent.

(d) The Price Proposal shall be submitted with the following required documents in the order shown below:

(1) “SOLICITATION, OFFER, AND AWARD” form (original signature required in Block 20B);

(2) The “SCHEDULE” page;

(3) the “REPRESENTATIONS AND CERTIFICATIONS”; and

(4) the “BID GUARANTEE”.

(End of provision)

AOC52.215-9 FAILURE TO SUBMIT OFFER (JUN 2004)

Recipients of this solicitation not responding with a proposal should not return this solicitation, unless it specifies otherwise. Instead, they should advise the issuing office by letter, postcard, or established electronic commerce methods, whether they want to receive future solicitations for similar requirements. If a recipient does not submit a proposal and does not notify the issuing office that future solicitations are desired, the recipient’s name **will** be removed from the applicable mailing list.

(End of provision)

FAR 52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a firm, fixed-price contract resulting from this solicitation.

(End of provision)

FAR 52.225-10 NOTICE OF BUY AMERICAN ACT REQUIREMENT--CONSTRUCTION MATERIALS (MAY 2002)

(a) *Definitions.* “Construction material”, “domestic construction material”, and “foreign

construction material”, as used in this provision, are defined in the clause of this solicitation entitled “Buy American Act - Construction Materials (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) *Requests for determination of inapplicability.* An offeror requesting a determination of inapplicability of the Buy American Act should submit the request to the Contracting officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act before submitting its offer or has not received a response to a previous request, the offeror shall include the information and supporting data on the offeror.

(c) *Evaluation of offers.* (1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act based on claimed unreasonable cost of domestic construction material, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.

(2) If the evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable costs.

(d) *Alternate offers.* (1) When an offer includes foreign construction material not listed by the Government in this solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror may also submit an alternate offer based on use of equivalent domestic construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of the clause at 52.225-9 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of the clause at 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such domestic construction material. An offer based on use of the foreign construction material for which an exception was requested--

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

AOC52.228-1 OFFER GUARANTEE (JUN 2004)

(a) Failure to furnish an Offer Guarantee in the required form and amount, with and as a part of the proposal, will be cause for rejection of the proposal.

(b) The offeror shall furnish an Offer Guarantee of not less than 20% of the proposed price in the form of a firm commitment consisting of a Bid Bond, Certified Check, Cashier's Check, Irrevocable Letter of Credit, or Postal Money Order made payable to the Architect of the Capitol, or, under Treasury Department Regulations, certain bonds or notes of the United States. The Contracting Officer will return Offer Guarantees, other than Bid Bonds, (1) to unsuccessful offerors as soon as practicable after evaluation of the proposals; and (2) to the successful offeror upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the offer as accepted.

(End of provision)

AOC52.236-13 VISIT TO THE SITE OF THE WORK - CONSTRUCTION (JUN 2004)

(a) It is strongly recommended that all prospective offerors visit the site where the work is to be performed, compare the work requirements with existing conditions, verify dimensions, if necessary, and fully inform themselves regarding the nature and scope of the proposed work and the conditions under which it will be conducted. Offerors shall also inform themselves regarding other work, if any, being done or to be done by or for the United States government, the District of Columbia government and utility companies, by contract or otherwise, where such work may affect or be affected by the operations under the contract. Failure to take these precautions will in no way relieve the successful offeror from his obligation to furnish all materials, services, labor, and any other requirements necessary to complete the work satisfactorily under the conditions established by the contract documents and without additional expense to the Government.

(b) A pre-proposal meeting will be conducted at the **Ford House Office Building, Room 526** Washington, D.C. for all prospective offerors on **July 25, 2006** at **10:15A.M.** local time.

(c) The Architect will conduct one field inspection of the work immediately following the pre-proposal meeting. Those intending to participate shall meet at the address above. Information concerning the meeting may be obtained by telephoning Mr. Satish Sethi at (202) 226-6615.

(d) Offerors are encouraged to submit all questions in writing at least five (5) working days prior to the conference. Questions will be considered at any time prior to or during the conference; however, offerors will be asked to confirm verbal questions in writing. Subsequent to the conference, an amendment to the solicitation containing an abstract of the questions and answers, and a list of attendees, will be disseminated.

(e) Offerors are cautioned that, notwithstanding any remarks or clarifications given at any site visit, the pre-proposal conference or field inspection, all terms and conditions of the solicitation remain unchanged unless they are changed by amendment to the solicitation. If the answers to conference questions, or any solicitation amendment, create ambiguities, it is the responsibility of the offeror to seek clarification prior to submitting a offer.

(End of provision)

END OF SOLICITATION CONDITIONS

VOLUME I I

TECHNICAL

PART 1 - GENERAL**1.1 DRAWING TITLES:**

- (a) The drawings entitled "Ford House Office Building" prepared by Alan M. Hantman, FAIA, Architect of the Capitol, dated 12/7/05 and 3/3/04, as listed below from a part of the Contract Documents.
- (b) The Contractor shall not scale the drawings but shall verify drawing dimensions and take additionally required dimensions at the site.
- (c) The Contractor will be furnished, free of charge, not more than six (6) sets of the contract drawings.

PART 2 - DRAWINGS LIST**2.1 GENERAL**

Number	Title
G001	Cover Sheet
G002	Key Plans)

2.2 ELECTRICAL

Number	Title
E001	Symbols List, Diagrams and Schedules
E101	Part Basement Floor Plan - Demolition and New Work
E102	Part Basement Floor Plan - Demolition and New Work
E103	Part Basement Floor Plan - Demolition and New Work
E104	Part Basement Floor Plan - Demolition and New Work
E105	Part First Floor Plan - Demolition and New Work
E106	Part First Floor Plan - Demolition and New Work
E107	Part First Floor Plan - Demolition and New Work
E108	Part First Floor Plan - Demolition and New Work
E109	Part Second Floor Plan - Demolition and New Work
E110	Part Second Floor Plan - Demolition and New Work
E111	Part Second Floor Plan - Demolition and New Work
E111 (rev)	Part Second Floor Plan - Demolition and New Work
E112	Part Second Floor Plan - Demolition and New Work
E113	Part Third Floor Plan - Demolition and New Work
E114	Part Third Floor Plan - Demolition and New Work

E115	Part Third Floor Plan - Demolition and New Work
E116	Part Third Floor Plan - Demolition and New Work
E117	Part Fourth Floor Plan - Demolition and New Work
E118	Part Fourth Floor Plan - Demolition and New Work
E119	Part Fourth Floor Plan - Demolition and New Work
E120	Part Fourth Floor Plan - Demolition and New Work
E121	Part Fifth Floor Plan - Demolition and New Work
E122	Part Fifth Floor Plan - Demolition and New Work
E123	Part Fifth Floor Plan - Demolition and New Work
E124	Part Fifth Floor Plan - Demolition and New Work
E125	Part Sixth Floor Plan - Demolition and New Work
E126	Part Sixth Floor Plan - Demolition and New Work
E127	Part Sixth Floor Plan - Demolition and New Work
E128	Part Sixth Floor Plan - Demolition and New Work
E129	Part Penthouse Floor Plan - Demolition and New Work
E130	Part Penthouse Floor Plan - Demolition and New Work
E131	Part Penthouse Floor Plan - Demolition and New Work
E132	Part Penthouse Floor Plan - Demolition and New Work

SECTION 01000 - GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS:

- A. General Requirements: The provisions or requirements of Division-1 apply to entire work of Contract and, where so indicated, to other elements which are included in project, and include, but are not limited to the following:
1. Summary of the Work.
 2. Project Coordination.
 3. Definitions and Standards.
 4. Schedules and Reports.
 5. Submittals.
 6. Temporary Facilities and Controls.
 7. Products.

1.2 SUMMARY OF THE WORK:

- A. Project/Work Identification:
1. General: Project name is Emergency and Exit Lighting Upgrades, Ford House Office Building, Washington, D.C., as shown on Contract Documents prepared by the Architect of the Capitol (AOC). Drawings and specifications are dated December 7, 2005.
 2. Summary by Reference: Work of the Contract can be summarized by references to the SCHEDULE, GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, Official Procedure for Making Changes in Contracts, Specification Sections, Drawings, Amendments, and Modifications to the Contract documents issued subsequent to the initial printing of this Project Manual and including, but not necessarily limited to, printed material referenced by any of these.
 3. Abbreviated Written Summary: Briefly and without force and effect upon the contract documents, the work of the Contract can be summarized as follows:
 - a. Add emergency lighting by installing new fixtures and transferring select existing normal lighting circuits and light fixtures to emergency power.
 - b. New emergency distribution equipment to include low voltage relays and transfer relay assemblies.
 - c. Limited demolition of existing branch circuit wiring.
 - d. Dispose of removed fluorescent lamps by recycling. Pack, label, store and transport fluorescent lamps in accordance with applicable regulations.
 4. Use of the Contract Documents: The Contract Documents are comprised of the Drawings (produced by several disciplines), the Specifications, the Amendments, the Contract, approved Change Orders and other directives. These documents are not to be used separately for bid or construction as they represent the entirety of the

project. The Contractor is responsible for insuring that the documents are used together.

5. Phasing Plan: No Phasing Plan is included in the Contract Documents. The Contractor is expected to complete all work sequentially to provide the minimum disruption of parking and normal building operations in the area. The Contractor will provide their own plan for approval by the Architect showing proposed phasing sequencing of the work and coordination with Government parking requirements.
 - a. The House Superintendent will designate acceptable areas where work may be performed. The phasing plan shall be modified based on this direction; work shall not be started until the final phasing plan is approved.

B. Contractor Use of Premises:

1. General: The Contractor shall limit his use of the premises to the work indicated, so as to allow for the Government's occupancy and use by the public.
2. Contractor Use of the Existing Building: During the construction period the site and the building will be occupied by Members of Congress, other Government employees and the general public. Maintain the existing building in a safe and weather-tight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period. Cooperate fully with the Architect or his representative during construction operations to minimize conflicts and to facilitate Government usage.
 - a. Clear Passage: Keep public areas such as hallways, stairs, elevator lobbies and toilet rooms free from accumulation of waste material, rubbish or construction debris. Where tools or debris may fall from overhead, provide covered enclosure.
 - b. Smoking or open fires will not be permitted within the building enclosure or on the premises.
 - c. Temporary Elevator Use: The Architect will designate (freight) elevators available for use of Contractor's personnel. Use of other than designated elevators will not be permitted.
3. Limitations on Use of the Site: Limitations on site usage as well as specific requirements that impact site utilization are indicated on the Drawings and by other Contract Documents. Portions of the site beyond areas on which work is indicated are not to be disturbed. In addition to these limitations and requirements, administer allocation of available space among entities needing both access and space so as to produce the best overall efficiency in performance of the total work of the project. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.
 - a. Unless designated for sole Contractor use, keep existing driveways and entrances serving the premises clear and available to the Government and its employees at all times. Do not permit trucks of any kind to use existing sidewalks without prior authorization of the Architect.

- b. Maintain driveways between and around combustible material storage piles at least 15' wide and free of accumulation of rubbish, equipment and materials. Maintain access for fire fighting equipment.
 - c. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to the areas indicated. If additional storage is necessary, obtain and pay for such storage off-site.
 - d. Provide 24hr/7day access to the building by emergency vehicles and firefighting equipment.
- C. Government Occupancy: The Government reserves the right to place and install equipment as necessary in completed areas of the building and to occupy such areas prior to final acceptance, provided that such occupancy does not substantially interfere with completion of the work. Such placing of equipment and partial occupancy shall not constitute acceptance of the work or any part of the work.
- D. Protection of Government Property: The Contractor is expected to take all reasonable precautions to protect U.S. Government Property. In the event of damage to or theft of Government Property, the Contractor will be held fully responsible for his own personnel, his subcontractor's personnel and their actions.
- E. Blasting: The use of any kind or type of explosive in the performance of the work is prohibited, except the use of construction tools actuated by or employing powder-actuated charges which shall be permitted, provided that the tool is of the kind and design ordinarily used for such construction and that the Architect has authorized its use after determining that its use will not endanger human life or safety.
- F. Electrical Requirements of General Work: Except as otherwise indicated, comply with applicable provisions of The National Electrical Code (NEC) and standards by National Electrical Manufacturer's Association (NEMA) for electrical components of general work. Where applicable, provide products listed and labeled by nationally recognized independent testing and labeling organizations.
- G. Cutting and Patching: Where the Contractor must cut, patch, alter, add to, repair or refinish existing construction and finishes which are not to be removed, he shall leave such construction and finishes complete and in satisfactory condition. Cutting, patching, and the like shall be neatly and carefully performed, and new materials and methods shall match existing corresponding work unless otherwise indicated. Exposed patches and repairs shall be as inconspicuous as possible.
 - 1. Construction, finishes, equipment and other items which are damaged or defaced by reason of work performed under this contract shall be restored to the satisfaction of the Architect.

1.4 DEFINITIONS AND STANDARDS:

- A. General: Comply with governing regulations and the codes and standards imposed upon the work. These requirements include the obtaining of permits, licenses, inspections, releases

and similar documentation, as well as payments, statements and similar requirements associated with regulations, codes and standards.

- B. Definitions: A substantial amount of specification language consists of definitions for terms found in other contract documents, including the drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon). Certain terms used in contract documents are defined in this article. Definitions and explanations contained in this section are not necessarily either complete or exclusive, but are general for the work to the extent that they are not stated more explicitly in another element of the contract documents.
1. Installer: The term "installer" is defined as the entity (person or firm) engaged by the Contractor, its subcontractor or sub-subcontractor for performance of a particular unit of work at the project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (installers) be expert in the operations they are engaged to perform.
 2. Testing Laboratory: The term "testing laboratory" is defined as an independent entity engaged to perform specific inspections or tests of the work, either at the project site or elsewhere, and to report, and (if required) interpret results of those inspections or tests.
 3. Indicated: The term "indicated" is a cross-reference to graphic representations, notes or schedules on drawings, to other paragraphs or schedules in the specifications, and to similar means of recording requirements in contract documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for the purpose of helping the reader locate cross-reference, and no limitation is intended except as specifically noted.
 4. Furnish: Except as otherwise defined in greater detail, the term "furnish" is used to mean supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
 5. Install: Except as otherwise defined in greater detail, the term "install" is used to describe operations at the project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.
 6. Provide: Except as otherwise defined in greater detail, the term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.
 7. Exposed: The term "exposed" is defined as an item or surface, exterior or interior, which can be seen by a person outside the building or a person inside a usable space within the building during normal activity.
 - a. Mechanical and electrical rooms, air handling rooms, storage rooms and penthouses shall be considered to have exposed surfaces, as shall the mechanical and electrical construction within them.
 - b. The interiors of closets and alcoves shall be considered exposed surfaces, and shall be finished to match the finish of the adjoining room or space, unless another finish is otherwise indicated.
 - c. The interiors of cabinets shall be considered exposed, but a finish different from that of the exterior may be permitted or required by other sections.

8. Concealed: The term "concealed" is defined as an item or space not normally seen, occupied or used by building occupants or staff, such as shafts, hoistways, tunnels, ceiling plenums, attics, and crawls spaces.
 9. Finished Space: The term "finished space" is defined as space normally used by the public, building occupants or staff for primary functions of the building, but does not include mechanical, electrical and elevator equipment rooms, hoistways, tunnels or mechanical penthouses, unless otherwise indicated.
 10. Specialist: The term "specialist" is defined as an individual or firm of established reputation (or, if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular force of workers skilled in either (as applicable) manufacturing or fabricating items required by the contract, installing items required by the contract, or otherwise performing work required by the contract. Where the contract specification requires installation by a specialist, that term shall also be deemed to mean either the manufacturer of the item, an individual or firm licensed by the manufacturer, or an individual or firm who will perform the work under the manufacturer's direct supervision.
- C. Format and Specification Content Explanations: Bolding and underscoring: Are used strictly to assist reader of specification text in scanning text for key words (for quick recall). No emphasis on or relative importance is intended where bolding and underscoring are used. Imperative language is used generally in specifications. Except as otherwise indicated, requirements expressed imperatively are to be performed by the Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe responsibilities which must be fulfilled indirectly by Contractor, or when so noted, by others.
1. Abbreviations: The language of specifications and other contract documents is of the abbreviated type in certain instances, and implies words and meanings which will be appropriately interpreted. Actual word abbreviations of a self-explanatory nature have been included in texts. Specific abbreviations have been established, principally for lengthy technical terminology and primarily in conjunction with coordination of specification requirements with titles of general standards which are frequently abbreviated. Singular words will be interpreted as plural and plural words will be interpreted as singular where applicable and where full context of the contract documents so indicates.
 2. Minimum Quality/Quantity: In every instance, the quality level or quantity shown or specified is intended as minimum for the work to be performed or provided. Except as otherwise specifically indicated, actual work may either comply exactly with that minimum (within specified tolerances), or may surpass the quality of that minimum within reasonable limits. In complying with requirements, indicated numeric values are either minimum or maximums as noted or as appropriate for context of requirements. Refer instances of uncertainty to the Architect for decision before proceeding.
- D. Overlapping and Conflicting Requirements: Where there appears to be overlapping or conflicting requirements in the drawings and specifications, refer all such questions in writing to the Architect for interpretation. Do not proceed with that portion of the work that is under question until the Architect has replied in writing. Delays necessitated by requests for interpretation shall not form the basis for a Change to the Contract. The Architect's

interpretation and decision shall be final. Procedures for resolving disagreements with the decision of the Architect are outlined in the General Conditions of the Contract. The order of precedence is established as follows:

1. Order of Precedence: Any inconsistency in this solicitation or Contract shall be resolved by giving precedence in the following order:
 - a. The Schedule (excluding the specifications).
 - b. Representations and other instructions.
 - c. Contract clauses.
 - d. The Specifications.
 - e. The Drawings. Large scale drawings take precedence over small scale drawings. Do not scale drawings.
 2. Industry Standards: Where compliance with two (2) or more industry standards or sets of requirements is specified, and overlapping of those different standards or requirements establishes different or conflicting minimums or levels of quality, the most stringent requirement is intended and will be enforced, unless specifically detailed language written into contract documents clearly indicates that a less stringent requirement is to be fulfilled. Refer apparently-equal-but-different requirements, and uncertainties as to which level of quality is more stringent, to the Architect for a decision before proceeding.
 3. Contractor's Options: Except for overlapping or conflicting requirements, where more than one set of requirements are specified for a particular unit of work, Options are intended to be the Contractor's regardless of whether or not it is specifically indicated as such.
- E. Drawing Symbols: Except as otherwise indicated, graphic symbols used on drawings are those symbols recognized in the construction industry for purposes indicated. Where not otherwise noted, symbols are defined by "Architectural Graphic Standards", published by John Wiley & Sons, Inc., Ninth edition.
1. Electrical Drawings: Graphic symbols used on electrical drawings are generally aligned with symbols recommended by ASHRAE. Where appropriate, these symbols are supplemented by more specific symbols as recommended by other recognized technical associations including ASME, ASPE, IEEE and similar organizations. Refer instances of uncertainty to the Architect for clarification before proceeding.
- F. Industry Standards: Except to the extent that more explicit or more stringent requirements are written directly into contract documents, applicable standards of the construction industry have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies were bound herein, subject to the order of precedence previously stated.
1. Publication Dates: Except as otherwise indicated, where compliance with an industry standard is required, conform to the standard in effect on the date of the Invitation for Bids, or, if referred to in any Amendments, at the date of such amendments.

2. Abbreviations and Names: The following acronyms or abbreviations as referenced in contract documents are defined to mean the associated names. Both names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of the date of contract documents:

AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9585
AWI	Architectural Woodwork Institute www.awinet.org	(800)449-8811 (703) 733-0600
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
CDA	Copper Development Association Inc. www.copper.org	(800) 232-3282 (212) 251-7200
FMG	FM Global (Formerly: FM - Factory Mutual System) www.fmglobal.com	(401) 275-3000
IEEE	Institute of Electrical and Electronics Engineers www.ieee.org	(212)419-7900
NAAMM	National Association of Architectural Metal Mfrs www.naamm.org	(312)332-0405
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NFPA	National Fire Protection Association www.nfpa.org	(800) 344-3555 (617) 770-3000
NRCA	National Roofing Contractors Association	(800) 323-9545

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| | www.nrca.net | (847) 299-9070 |
| | SMACNA Sheet Metal and Air Conditioning Contractors'
National Association
www.smacna.org | (703) 803-2980 |
| SSPC | SSPC: The Society for Protective Coatings
www.sspc.org | (877) 281-7772
(412) 281-2331 |
| UL | Underwriters Laboratories Inc.
www.ul.com | (800) 704-4050
(847) 272-8800 |
| WWPA | Western Wood Products Association
www.wwpa.org | (503) 224-3930 |
- G. Federal Government Agencies: Names and titles of federal government Standard- or Specification-producing agencies are often abbreviated. The following acronyms or abbreviations referenced in the Contract Documents indicate names of Standard- or Specification-producing agencies of the federal government. Names and addresses are subject to change but are believed to be, but are not assured to be, accurate and up to date as of the date of the Contract Documents.
- | | | |
|------|--|----------------------------------|
| CFR | Code of Federal Regulations
Available from Government Printing Office
www.access.gpo.gov/nara/cfr | (888) 293-6498
(202) 512-1530 |
| EPA | Environmental Protection Agency
www.epa.gov | (800) 438-2474 |
| FS | Federal Specification
Available from Defense Automated Printing Service
www.astimage.daps.dla.mil/online | (215) 697-6257 |
| | Available from General Services Administration
www.fss.gsa.gov/pub/fed-specs.cfm | (202) 619-8925 |
| | Available from National Institute of Building Sciences
www.nibs.org | (202) 289-7800 |
| OSHA | Occupational Safety and Health Administration
www.osha.gov | (800) 321-OSHA
(6742) |
- H. District of Columbia Government Agencies: Names and titles of local government Standard- or Specification-producing agencies are often abbreviated. The following acronyms or abbreviations referenced in the Contract Documents indicate names of Standard- or Specification-producing agencies of the DC government. Names and addresses are subject to change but are believed to be, but are not assured to be, accurate and up to date as of the date of the Contract Documents.
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|--------|-------------------------------------|----------------|
| DC-EHA | Environmental Health Administration | (202) 535-2500 |
|--------|-------------------------------------|----------------|

Department of Health
 Government of the District of Columbia
 51 N Street, N.E, Room 5030-B
 Washington, DC 20002
dchealth.dc.gov

DDOT	District Department of Transportation 2000 14th Street, NW, 6th Floor Washington, DC 20009 ddot.dc.gov	(202) 673-6813
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WASA	District of Columbia Water and Sewer Authority 5000 Overlook Avenue, S. W. Washington, DC 20032 www.dcwasa.com	(202) 787-2427
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1.5 SCHEDULES & REPORTS:

- A. Coordination: Coordinate both the listing and timing of reports and other activities required by provisions of this and other sections, so as to provide consistency and logical coordination between the reports. Maintain coordination and correlation between separate reports by updating at monthly or shorter time intervals. Make appropriate distribution of each report and updated report to all parties involved in the work including the Architect.
- B. Material Schedule: Prior to commencing work, submit for approval the names of manufacturers and the trade names or numbers of all materials proposed for use on the project. Do not use any material until approved by the Architect. Upon request, furnish samples of materials, without cost to the Government, for examination and testing.
 - 1. Submit 3 copies of the product-listing schedule prior to commencement of the Work. Provide a written explanation for omissions of data, and for known variations from contract requirements.
- C. Schedule of Values: Within thirty (30) calendar days of the date of contract award, a Schedule of Values shall be submitted. This schedule is defined as a work item by work item breakdown of cost of each definitive work activity including Contractor's markup. The Schedule of Values shall directly correlate with the Phases of Work indicated on the approved Progress Schedule specified below.
 - 1. The Grand Total of all of the Schedules shall equal Contractor's original bid.
 - 2. The proper updating of both the Schedule of Values and the Record Drawings shall be considered precedent to approval of Partial Payments.
- D. Shop Drawing Submittal Schedule: Within thirty (30) calendar days of the date of contract award, a Shop Drawing Submittal Schedule shall be submitted. The schedule shall indicate at a minimum, all shop drawing submittals to be made, their contents, each specification section the submittal is drawn from, the date on which it will be submitted, the expected return dates, and the subcontractor responsible for creating the submittal. The submittal will be reviewed by the Architect as the first shop drawing submittal and comments made must be acknowledged and

employed in the resubmission prior to the submittal of any other shop drawing. Do not "Load" the schedule.

- E. Progress Schedule: Within fourteen (30) calendar days of the date of contract award, the Contractor shall prepare and submit for approval a schedule showing the order in which he proposes to perform the Work, the dates on which he will start each phase of work and the contemplated dates of completion for each phase of site. Not less than six (6) copies of this schedule shall be submitted to the Architect.
 - 1. Cost Correlation: Immediately below the date line at the heading of the bar-chart, provide a two item cost correlation line, indicating both "precalculated" and "actual" costs. This cost correlation line shall show dollar-volume of work performed as of the same dates used for preparation of partial payment requests. Refer to GENERAL CONDITIONS for cost reporting and payment procedures. In so far as it is practical to do so, use the same units of work in the progress schedule as indicated in the "schedule of values" required by the GENERAL CONDITIONS and further specified above.
 - 2. Schedule Updating: Following its initial approval, the project schedule shall be updated monthly for the purpose of recording and monitoring progress of the Work and establishing the values of progress payments. If the Work falls behind schedule, revise schedule and describe action to be taken to insure that work will be completed within the Contract time. Any adjustment to the Contract Time shall be made in accordance with the GENERAL CONDITIONS. For each schedule update, prepare a narrative report which shall include a description of all activities completed during the preceding month, description of progress made and planned activities listed as started but not completed on the updated Progress Schedule, and a written description and justification of any proposed revision to the logic sequence.
- F. Contractor shall submit Phasing and sequence plan to AOC within 30 calendar days of the award date.
- G. Permits, Licenses, and Certificates: For the Government's records, submit copies of utility permits, licenses, certifications, utility inspection reports, releases, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

1.6 SUBMITTALS:

- A. General: Shop drawings, product data, samples and other work-related submittals are required to amplify, expand and coordinate the information contained in the Contract Documents. The Contractor is responsible for all dimensions, for the design of adequate or proper components, connections and other items, for the inclusion in the work of all elements and incidental details, and for the satisfactory fabrication, construction, operation and coordination of the work.
 - 1. Approval of any submission shall not be construed as a complete or precise check of the item submitted but will only indicate that the general methods of design, detailing, construction or other elements under consideration appear to be satisfactory, without specific determinations or particulars.
 - 2. Changes to the Contract will not be made by notations on submittals. In the event submittals returned by the Architect with notations, which in the opinion of the Contractor, constitute additional work for which he is entitled to an adjustment in the contract sum or the contract

time, the Contractor shall comply with the procedure set forth in Article 7, "Changes," of the GENERAL CONDITIONS.

3. Do not permit submittal copies without an appropriate final "Action" marking by the Architect to be used in connection with the work.
 4. Submissions of "Approved Equals:" In addition to standard submittal requirements, for each item submitted as an "approved equal" submit the following:
 - a. Comparison of proposed approved equal's characteristics with the salient characteristics of the specified product demonstrating that the proposed approved equal fully meets or exceeds the specifications,
 - b. Drawings and samples as required for specified products,
 - c. Any changes required in other elements (if any) because of the submission of the proposed approved equal, and
 - d. A listing of sources of supply, maintenance service (if applicable), and replacement parts.
- B. Submittal Procedures: Make all submittals to the Architect or to an individual designated by the Architect.
1. Only the Architect or an individual designated by the Architect can approve or disapprove submittals. Deviations and variations from the contract requirements contained in the submittal can be approved only by the Architect or by an individual delegated such authority by the Architect.
 2. Costs associated with transmittal of submittals shall be borne by the Contractor.
 3. Review Time: Except as specified elsewhere, allow for a review period of thirty (30) calendar days after receipt of the submittals by the Architect. Advise the Architect on each submittal, as to whether processing time is critical to the progress of the work, and if work would be expedited if processing time could be shortened. No extension of time will be authorized because of the Contractor's failure to transmit submittals or re-submittals to the Architect sufficiently in advance of the work. For submittals of items requiring coordination between different trades or subcontractors, review time period starts from the time that all required submittals have been received by the Architect and ends when submittal leaves the Architect. The Contractor is required to coordinate all work involving associated sub-trades and produce coordinated drawings for submittal where required by individual specification sections or as required below.
 4. Preparation of Submittals: Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, supplier, manufacturer, submittal name and similar information to distinguish it from other submittals. Label as to number and title of specification section, drawing number and detail references, as appropriate. Show Contractor's executed review and approval marking and provide space of not less than 20 sq. in. for the Architect's "Action" marking. Package each submittal appropriately for transmittal and handling. Submittals which are received from sources other than through the Contractor's office will be returned without action.
 5. Number of Copies: Submit a minimum of five (5) copies of each submittal requested.
- C. Specific Submittal Requirements: Specific submittal requirements for individual units of work are specified in the applicable specification section. Except as otherwise indicated in the individual specification sections, comply with the requirements specified herein for each type of transmittal.

1. Product Data: Collect required product data into a single submittal for each unit of work or system. Mark each copy to show which choices and options are applicable to the project. Where product data has been printed to include information on several similar products, some of which are not required for use on the project, or are not included in this submittal, mark the copies to show clearly that such information is not applicable.
 - a. Submittals: Submittal is for information and record, unless otherwise indicated. Initial submittal is final submittal unless returned by the Architect, marked with an action which indicates an observed non-compliance.
 - 1) Initial Submittal: Except as otherwise indicated, submit 7 copies of each required product data submittal.
2. Shop Drawings: Provide special notation of dimensions that have been established by field measurement. Highlight, encircle or otherwise indicate deviations from the Contract Documents on the shop drawings.
 - a. Preparation: Submit newly prepared information, drawn to accurate scale on sheets not less than 8-1/2" x 11"; except for actual pattern or template type drawings, the maximum sheet size shall not exceed 36" x 48". Indicate the name of the firm that prepared each shop drawing and provide appropriate project identification in the title block.
 - 1) Do not reproduce contract documents or copy standard printed information as the basis of shop drawings.
 - 2) Use standard architectural scales for all drawings..
 - b. Coordination Drawings: Prior to installation of sleeves and inserts for equipment, and/or the performance of work in spaces in which two or more trades are involved and in which the probability of interference exists as determined by either the Contractor or the Architect, submit composite coordination drawings for the Work. Show sequencing and relationship of separate units of work which must interface in a restricted manner to fit in the space provided, or function as indicated. In case interference develops, the Architect will decide which work shall be relocated, regardless of which was installed first. Coordination drawings are considered shop drawings and must be definitive in nature.
 - 1) Submit drawings showing layout of electrical systems and equipment to identify how Government's personnel will have access for lockout/tagout procedures.
 - c. Equipment and Systems: Shop Drawings for equipment and systems shall show ratings (where applicable), and how components are assembled, function together, and how they will be installed. Shop drawings, product data, certificate of conformance or compliance, certified test or inspection reports, and other submittals for equipment, systems, and their component parts shall be coordinated and submitted as a unit. Multiple or piecemeal submissions are not acceptable except where prior approval is obtained from the Architect, in which case a list of data to be submitted later shall be included with the first submission.

- d. Initial Submittals: Submit to the Architect. The Architect will determine the number of submittals required and notify the contractor of third-party reviews, if required.
 - e. Final Submittal: 3 prints, plus 2 additional prints where required for maintenance manuals; 2 will be retained and remainder will be returned, one of which is to be marked-up and maintained by Contractor as "Record Document."
- 3. Samples: Documentation required specifically for sample submittals includes a generic description of the sample, the sample source or the product name or manufacturer, compliance with governing regulations and recognized standards. In addition, indicate limitations in availability, sizes, delivery time, and similar limiting characteristics.
 - a. Preparation: Where possible provide samples that are physically identical with the proposed material or product to be incorporated in the work; provide full scale, fully fabricated samples cured and finished in the manner specified. Where variations in color, pattern, or texture are inherent in the material or product represented by the sample, submit not less than 3 units of the sample, which show the full range of variations. Where samples are specified for the Architect's selection of color, texture or pattern, submit a full set of available choices for the material or product. Mount, display, or package samples in the manner specified to facilitate the review of indicated qualities. Prepare samples to match the Architect's sample where so indicated.
 - b. Submittal: Submit 3 sets of samples in the final submittal, one set will be returned. If the submittal is for the Architect's selection of color, pattern, texture or similar characteristics from a manufacturer's standard range of choices, only a single set of samples is required for a preliminary submittal. The final submittal may then be limited only to those choices selected by the Architect for final incorporation into the Work.
 - c. Mock-Ups and similar samples specified in individual work sections are special types of samples. Comply with sample submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.
- 4. Miscellaneous Submittals:
 - a. Inspection and Test Reports: Classify each inspection and test report as being either "shop drawings" or "product data" depending on whether the report is specially prepared for the project, or a standard publication of workmanship control testing at the point of production. Process inspection and test reports accordingly.
 - b. Warranties: Refer to Article "Products" for specific general requirements on warranties, product bonds, workmanship bonds and maintenance agreements. In addition to copies desired for the Contractor's use, furnish 2 executed copies of such warranties, bonds or agreements. Provide 2 additional copies where required for maintenance manuals.
 - c. Staging Plan: To be determined by the Architect.
- D. Architect's Action: Except for submittals for the record and similar purposes, where action and return on submittals is required or requested, the Architect will review each submittal and mark with appropriate "Action." Where the submittal must be held for coordination, the Architect will so advise the Contractor without delay.

1. If no changes to the drawing are required, three (3) prints and the reproducible drawing will be returned to the Contractor, bearing the stamp of the Architect, stating - "APPROVED."
 2. If changes to the drawing are required, but are of such minor nature that fabrication and/or construction can proceed in accordance with the correction noted by the Architect without resubmission of the drawing three (3) prints and the reproducible drawing will be returned to the Contractor bearing the Stamp of the Architect stating "Approved as Noted." The Contractor shall proceed with fabrication and/or construction in accordance with the Architect's corrections, and resubmit corrected copy for the Architect's records.
 3. If changes to the drawing are required, but are of such nature that fabrication or construction cannot proceed, three (3) prints and the reproducible drawing will be returned to the Contractor, bearing the stamp of the Architect stating - "Revise and Resubmit." In such a case, the Contractor shall resubmit the drawings, properly corrected. Upon resubmission of shop drawings, if any corrections or changes are made other than those marked by the Architect, the Contractor shall clearly indicate any such corrections or changes made on his own initiative.
 4. If the product does not meet the specification requirements, the number of copies outlined above will be returned to the Contractor, bearing the stamp of the Architect stating - "REJECTED." In such a case, the Contractor shall submit a new product which complies with the technical specifications.
 5. Other Action: Where the submittal is returned, marked with the Architect's explanation, for special processing or other Contractor activity, or is primarily for information or record purposes, the submittal will be marked as follows:
 - a. Not Subject to Review: This review category will apply to submittals which are not required by the Contract Documents and are inadvertently submitted and stamped; or
 - b. Received/No Action Required: This category will be used when returning "Informational Submittals" for which the Architect is not required to take action.
- B. Quality Assurance: Comply with the requirements of the District of Columbia Building Code and regulations governing construction and local industry standards, in the installation and maintenance of temporary services and facilities.
1. Standards: Comply with the requirements of NFPA Code 241, "Building Construction and Demolition Operations", 29 CFR 1926, the ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and the NECA National Joint Guideline NJC-6 "Temporary Job Utilities and Services."
 - a. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", as prepared jointly by Associated General Contractors of America (AGC) and American Specialty Contractors, Inc. (ASC) for industry recommendations.
 - b. Trade Jurisdictions: The assigned responsibilities for the installation and operation of temporary utilities are not intended to interfere with the normal application of trade regulations and union jurisdictions applicable to the work.
 2. Inspections: Inspect and test each service before placing temporary utilities in use. Arrange for required inspections and tests by governing authorities, and obtain required certifications and permits for use.

- C. Job Conditions: Provide each temporary service and facility ready for use at each location when the service or facility is first needed to avoid delay in performance of the Work. Maintain, expand as required and modify temporary services and facilities as needed throughout the progress of the Work. Do not remove until services or facilities are no longer needed, or are replaced by the authorized use of completed permanent facilities.
- E. Temporary Construction and Support Facilities:
1. Field Offices and Sheds: Field offices or sheds are not permitted. Space in the building will be designated by the Architect for staging and storage.
 2. Temporary Partitions: Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.
 - a. Construct dustproof partitions of not less than nominal 4-inch (100-mm) studs, 5/8-inch (16-mm) Type X gypsum wallboard with joints taped on occupied side, and 1/2-inch (13-mm) fire-retardant plywood on construction side.
 - b. Construct dustproof, floor-to-ceiling partitions of not less than nominal 4-inch (100-mm) studs, 2 layers of 6-mil (0.14-mm) polyethylene sheets, inside and outside temporary enclosure. Cover floor with 2 layers of 6-mil (0.14-mm) polyethylene sheets, extending sheets 18 inches (460 mm) up the side walls. Overlap and tape full length of joints. Cover floor with 3/4-inch (19-mm) fire-retardant plywood.
 - 1) Construct a vestibule and airlock at each entrance to temporary enclosure with not less than 48 inches (1219 mm) between doors. Maintain water-dampened foot mats in vestibule.
 - c. Insulate partitions to provide noise protection to occupied areas.
 - d. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
 - e. Protect air-handling equipment.
 - f. Weatherstrip openings.
 3. Construction Aids: Design, construct, and maintain construction aids and miscellaneous general services and facilities as needed to accommodate performance of the work. Construction aids and miscellaneous general services and facilities include, but are not limited to the following:
 - a. Provide scaffolds as required for proper execution of the Work. Remove or relocate scaffolds promptly to avoid interference with other trades. Provide stairs for vertical circulation.
 - b. Provide adequate guardrails and barriers at perimeters of each level of construction as work progresses in accordance with District of Columbia requirements and in conformance with requirements of the Special Conditions.
 - c. Provide adequate facilities for hoisting materials and employees. Do not permit employees to ride hoists which comply only with requirements for hoisting materials. The Contractor is responsible for selection of type, size and number of facilities. Truck cranes and similar devices used for hoisting are considered as being "tools and equipment" and not temporary facilities.

4. Project Signage: No signs, other than safety signs, may be erected on the site unless specifically indicated otherwise.
- F. Security and Protection Facilities: Provide and maintain all necessary barricades, lights, and other safeguards for the protection of Members of Congress, Government employees, Contractor's employees and the general public from injury. Protect materials and work on the site, whether incorporated in the work or not, against damage or loss from any cause.
1. Provide a reasonably neat and uniform appearance in security and protection facilities acceptable to the Architect.
- G. Temporary Controls:
1. Traffic Control: Plan vehicular access methods, locations and timing of deliveries in a manner to minimize interference with street and pedestrian traffic and to conform to District of Columbia regulations. Do not block or obstruct public streets, driveways and walkways adjacent to the site at any time during performance of the work without proper authorization. Do not permit trucks of any kind to use existing sidewalks without prior authorization of the Architect.
 2. Collection and Disposal of Wastes: Establish a system for daily collection and disposal of waste materials from construction areas and elsewhere on the site. Enforce requirements strictly. Do not hold collected materials at the site longer than 7 days during normal weather or 3 days when the daily temperature is expected to rise above 80 deg. F (27 deg. C). Handle waste materials that are hazardous, dangerous, or unsanitary separately from other inert waste by containerizing appropriately. Dispose of waste material in a lawful manner.
 - a. Burying or burning of waste materials on the site will not be permitted.
 - b. Washing waste materials down sewers or into waterways will not be permitted.
 - c. Provide rodent proof containers located on each floor level of construction work, to encourage depositing of garbage and similar wastes by construction personnel.
 3. Dust Control: During periods of construction activity creating dust conditions sprinkle periodically the site areas disturbed by Contractor's operation or treat with dust suppressors to control dust. Dry power brooming will not be permitted. Use vacuuming, wet mopping, wet sweeping or wet power brooming. Air blowing will be permitted only for cleaning non-particulate debris. Use only wet cutting procedures for unit masonry and concrete.
 - a) Provide barriers constructed as required in "Temporary Partitions" above.
 - b) Seal registers, grilles, and other openings to prevent dust from entering other areas.
 4. Noise Control: Avoid the use of tools and equipment that produce harmful noise. Restrict the use of noise making tools and equipment to hours of use that will minimize noise complaints from persons or firms near the project site.
 5. Environmental Protection: Provide general protection facilities, operate temporary facilities, conduct construction activities, and enforce strict discipline for personnel on the site in ways and methods that comply with environmental regulations, and that minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result from the performance of work at the site.

- H. Installation, Operation, Termination and Removal: Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the Work.
1. Supervision: Limit availability of temporary services and facilities to essential and intended uses to minimize waste and abuse. Do not permit temporary installations to be abused or endangered. Do not allow hazardous, dangerous or unsanitary conditions to develop or persist on the project site.
 2. Maintenance: Operate and maintain temporary services and facilities in good operating condition throughout the time of use and until removal is authorized. Protect from damage by freezing temperatures and similar elements.
 3. Termination and Removal: Unless the Architect requests that it be maintained for a longer period of time, remove each temporary service and facility promptly when the need for it or a substantial portion of it has ended, or when it has been replaced by the authorized use of a permanent facility, or no later than substantial completion. Repair damaged work, clean exposed surfaces and replace work which cannot be satisfactorily repaired. Contract time includes the time required for final cleanup of premises.
 - a. Immediately prior to final acceptance, clean and renovate permanent services and facilities that have been used to provide temporary services and facilities during the construction period.
 - b. Restoration of Site and Adjacent Areas : Restore the site and the adjacent areas used for staging, traffic, protection and storage of materials to their conditions prior to start of work.

1.8 PRODUCTS:

- A. General: Refer to clause, "Materials and Workmanship," of the GENERAL CONDITIONS. After execution of the Contract, the Contractor's requests for changes in the products, materials, equipment and methods of construction required by the Contract Documents are considered requests for "contract modifications," and are subject to the requirements specified in Architect of the Capitol, "Official Procedure for Making Changes in Contracts." Revisions to the contract documents, where requested by the Architect are considered as "changes" not substitutions.
- B. Quality Assurance: Compatibility of products is a basic requirement of product selection. When the Contractor is given the option of selecting between two or more products for use on the project, the product selected must be compatible with other products previously selected, even if the products previously selected were also Contractor options. The complete compatibility between various choices available to the Contractor is not assured by the various requirements of the Contract Documents, but must be provided by the Contractor. Provide a single product for each required product selection, regardless of whether that product selection is provided by more than one sub-contractor. Do not alter product brands or series for a given product selection during the life of the contract without written approval of the Architect.
1. Source Limitations: To the fullest extent possible and subject to the restrictions of the "Buy American Act," provide products of the same generic kind, from a single source, for each unit of work.

- C. **Product Delivery, Storage, and Handling:** Deliver, store, and handle products in accordance with manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft. Control delivery schedules to minimize long-term storage at the site and to prevent overcrowding of construction spaces, and to ensure minimum holding or storage times for items known or recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration or loss.
1. Deliver products to the site in the manufacturer's sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, ventilating, and installing.
 2. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units, and in conformance with manufacturer's instructions.
 3. Store heavy materials away from the project structure in a manner that will not endanger the supporting construction.
 4. Maintain access to Material Safety Data Sheets as required by safety regulations.
- D. **General Product Compliance:** Requirements for individual products are indicated in the Contract Documents; compliance with these requirements is in itself a contract requirement. These requirements may be specified in any one of several different specifying methods, or in any combination of these methods.
1. **Procedures for Selecting Products:** The Contractor's options in selecting products are limited by requirements of the Contract Documents and governing regulations. They are not controlled by industry traditions or procedures experienced by the Contractor on previous construction projects.
 - a. **Performance Specification Requirements:** Where the specifications require compliance with indicated performance requirements, provide products that comply with the specific performance requirements indicated, and that are recommended by the manufacturer for the application indicated. The manufacturer's recommendations may be contained in published product literature, or by the manufacturer's individual certification of performance. General overall performance of a product is implied where the product is specified for specific performances.
 - b. **Compliance with Standards, Codes and Regulations:** Where the specifications require only compliance with an imposed standard, code or regulation, the Contractor has the option of selecting a product that complies with specification requirements, including the standards, codes and regulations.
 - c. **Visual Matching:** Where matching an established sample is required, the final judgement of whether a product proposed by the Contractor matches the sample satisfactorily will be determined by the Architect. Where there is no product that matches the sample satisfactorily and also complies with other specified requirements, comply with the provisions of the contract documents concerning "changes" for the selection of a matching product in another product category, or for non-compliance with specified requirements.
- E. **General Product Requirements:** Provide products that comply with the requirements of the contract documents and that are undamaged and, unless otherwise indicated, unused at the time of installation. Provide products that are complete with all accessories, trim, finish, safety

guards and other devices and details needed for a complete installation and for the intended use and effect.

1. Provide products that are essentially the standard catalogued products of manufacturers regularly engaged in production of such products and that are the manufacturer's latest standard design that complies with the specification requirements. Equipment shall essentially duplicate items that have been in satisfactory commercial and industrial use at least two years, or more if otherwise specified, prior to bid opening; or in lieu thereof shall have been used and operated in a test installation which, in the opinion of the Architect, duplicate its field performance for the same period of time. The Architect reserves the right to require the Contractor to submit evidence to this effect for his approval. When two units of the same class of equipment are required, these units shall be the product of a single manufacturer; however, the component parts of the system need not be the products of the same manufacturer.
 2. Provide standard, domestically produced products for which the manufacturer has published assurances that the products and its parts are likely to be available to the Government at a later date.
 3. Nameplates: Except as otherwise indicated for required labels and operating data, do not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view either in occupied spaces or on the exterior of the completed project.
- F. Installation of Products: Except as otherwise indicated in individual sections of these specifications, comply with the manufacturer's instructions and recommendations for installation of the products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other work. Clean exposed surfaces and protect surfaces as necessary to ensure freedom from damage and deterioration at time of acceptance.
1. Mechanical and electrical installation: In addition to code-required access and clearances, ensure that arrangements and installations accommodate Government's lockout/tagout procedures.

END OF SECTION 01000

SECTION 01040 - WORK RESTRICTIONS**PART 1 - GENERAL****1.1 USE OF PREMISES**

- A. **Contractor's staging area:** Exact location to be determined by the Architect. Take into account restricted height and turning areas when scheduling deliveries to staging area.
- B. **Deliveries** shall normally be to the staging area. Equipment to be received at the building loading dock shall be delivered between 7:00 am and 2:00 pm Monday through Friday, following procedures established by the United States Capitol Police.

1.2 OCCUPANCY REQUIREMENTS

- A. **Full Occupancy:** Government will occupy site and existing building during entire construction period. Cooperate with Architect during construction operations to minimize conflicts and facilitate use. Perform the Work so as not to interfere with operations.
- B. **Perform work** in phases or sequences as specified." Work in an occupied space shall not commence until all materials and resources are available to complete the work in the scheduled time.
- C. **Noise:** Construction activities which generate noise which may interfere with the business activities of building occupants shall be performed at a time convenient to the Government.
 - 1. For the purpose of bidding, convenient time shall be from 8:00 PM to 4:00 AM.
 - 2. For the purpose of construction, confer with the Architect and include in project schedules the agreed convenient time.
 - 3. Activities which are likely to produce noise interference include, but are not limited to, demolition, drilling, and cutting.

1.3 OTHER RESTRICTIONS

- A. **Torch cutting or welding:** Obtain permits before scheduling torch cutting or welding, and have permits with the crew while the work is being done.
- B. **Pipe cutting and threading:** Permitted only in the staging area.

- C. **Parking:** No parking facilities are available for personal vehicles of the Contractor, employees, subcontractors, or material suppliers.
 - 1. **Construction motor vehicles or equipment:** Permitted in the staging area; if other parking is required, include in project coordination submittals and planning and obtain Architect's approval.
- D. **Signs:** No signs other than safety signs may be erected at the site.
- E. **Public ways:** Do not block or obstruct streets, drives, or walkways adjacent to the site without proper authorization.

1.4 DELIVERY, STORAGE, AND HANDLING:

- A. **Deliver material** in manufacturer's original, unopened protective packaging. Deliveries to the Project shall be submitted for inspection and delivery instructions at the United States Capitol Police Inspection Station, 3rd Street and Pennsylvania Avenue, N.W., Washington, D.C., prior to delivery to the Project Site.
- B. **Store material** in original protective packaging. Prevent soiling, physical damage, and wetting. Protect equipment and exposed finishes during transportation, erection, and construction against damage and stains.
- C. **Limitation on the Use of the Site:** Portions of the building beyond the areas on which the specified work is indicated shall not be disturbed. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01040

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General Project coordination procedures.
 - 2. Conservation.
 - 3. Coordination Drawings.
 - 4. Administrative and supervisory personnel.
 - 5. Project meetings.
 - 6. Quality Assurance.
- B. General: Installation of emergency lighting system under this contract shall be executed concurrently in each suite or general work area and shall be completed within that suite or work area during a single Work Period. Disruption of Congressional activities shall be held to a minimum.
- C. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.
- C. Related Sections include the following:
 - 1. Division 1 Section "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
 - 2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Division 1 Section "Project Closeout" for coordinating Contract closeout.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation. Prepare a written memorandum

- on required coordination activities. Include such items as required notices, reports and attendance at meetings. Distribute this memorandum to each entity performing work at the project site.
- B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
- C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Pre-installation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
 9. Project closeout activities.

- a. **Look-Ahead Schedules:** Look-ahead schedules shall be submitted for each Project Meeting on a weekly basis covering work to be executed three weeks after that meeting. At a minimum, visually inspect all work areas for the presence of any undocumented hazardous material a minimum of 2 weeks prior to any scheduled work in an area. Notify the Architect of the presence of any undocumented hazardous materials promptly to allow for timely remediation.
 - b. **Suite Sequence:** The Look-Ahead Schedule shall be provided to allow the Architect to coordinate suite availability with building occupants. The weekly Look-Ahead Schedule shall permit the Architect to vary the order in which individual suites are completed within the week's work plan. The contractor shall coordinate the final order of suite work at the beginning of each week's work with the Architect.
 - c. **Suite Availability:** If for any reason a suite becomes unavailable for work, the general work area's corridor shall be coordinated at a later date.
 - d. **48 Hour Notice:** provide final notice to the Architect of intent to work in a room of suite 48 hours in advance of each room or suite's planned work period.
- E. **Material Schedule:** Prior to commencing work, submit for approval the names of manufacturers and the trade names or numbers of all materials proposed for the use on the Project. Do not use materials until approved by the Architect. Submit 5 copies of product listing schedule prior to commencement of the work.
- F. **Payment Requests:** All payments will be made in accordance with the GENERAL CONDITIONS and the approved Progress Schedule.

1.4 SUBMITTALS

- E. **Coordination Drawings:** Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
- 1. Indicate relationship of components shown on separate Shop Drawings.
 - 2. Indicate required installation sequences.
 - 3. Refer to Division 16 Section "Basic Electrical Materials and Methods" for specific Coordination Drawing requirements for electrical installations.
- F. **Staff Names:** Within 14 days of Award of Contract, submit a list of principal staff assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone.
 2. Provide emergency telephone numbers for key personnel.
- G. **Material Safety Data Sheets (MSDS):** The Contractor shall provide to the Architect a current MSDS for all material prior to using it on the project. This includes any materials or operations which produces (but is not limited to) smoke, odors, vapors, noise or other effects which could be hazardous or disturbing to the building occupants.

1.5 QUALITY ASSURANCE:

- A. **General:** Submit for approval within thirty (30) calendar days of Award of Contract, A Quality Assurance (QA) program as specified in this section. The QA program consists of a QA Organization, a QA Plan, a QA Plan Meeting, a Coordination Meeting, recurring QA Meetings, a process enumerating phases of QA control, submittal review, QA testing, and documentation necessary to provide materials, equipment, workmanship, fabrication, construction, and operations which comply with the requirements of this Contract. The QA program shall cover construction operations on-site and shall be keyed to the proposed construction schedule.
- B. **Requirements:** Provide for approval by the Architect, a Quality Assurance plan that covers, both on-site and off-site work and includes, the following:
1. Quality Assurance organization chart documenting quality assurance methods and their relationship to the production portions of the company. Reporting relationships to both the parent organization and the site specific organization shall be clearly identified.
 2. Names and qualifications, in resume format, for each person in the Quality Assurance organization. Identify lines of authority for each person responsible for the management and coordination of prime- and sub-contractor quality assurance activities. Define methods to incorporate Quality Assurance personnel into Progress Meetings.
 3. Duties, responsibilities, and authorities for each person in the QA organization to include the following:
 - a) Review and verification of contract compliance for submittals,
 - b) Performance and documentation of the proposed phases of QA control,
 - c) Performance, review and documentation of testing, and
 - d) Work stoppage due to non-compliance.
 4. A listing of outside organizations, if utilized, such as architectural and engineering firms that will be employed by the Contractor and a description of the service these firms will provide.
 5. Procedures for reviewing, approving and managing submittals. Provide the names of the persons in the QA organization authorized to review and verify contract compliance of submittals prior to submission to the Architect.
 7. Testing laboratory information required by the paragraphs entitled "Accredited Laboratories" or "Testing Laboratory Requirements."

8. A Testing Plan and Log that includes the tests required, referenced by the specification paragraph number that requires the test, the frequency, and the person responsible for each test.
 9. Procedures to identify, record, track and complete rework items.
 10. Documentation procedures, including proposed report formats and listings of reports that will be provided to the Architect on a recurring basis..
 11. A list of definable features of work. A definable feature of work is a task which is separate and distinct from other tasks and requires separate control requirements. As a minimum, if approved by the Architect, consider each section of the specifications as a definable feature of work. However, at times, there may be more than one definable feature of work in each section of the specifications.
- C. **Planning Meeting:** Prior to submission of the QA Plan, meet with the Architect to discuss the QA plan requirements of this Contract.
- D. **Preliminary Work Authorized Prior to Approval:** The only work that is authorized to proceed prior to the approval of the QA Plan is mobilization of storage and office trailers, surveying, and administrative submittals.
- E. **Architect's Approval:** Approval of the QA Plan is required prior to the start of construction. The Architect reserves the right to require changes in the QA Plan and operations as necessary to ensure the specified quality of work. The Architect reserves the right to interview any member of the QA organization at any time in order to verify his/her submitted qualifications.
- F. **Notification of Changes:** Notify the Architect, in writing, of any proposed changes, including changes in the QA organization personnel, a minimum of 7 calendar days prior to a proposed change. Proposed changes must be approved by the Architect.

1.7 CONSERVATION

- A. **Conservation and Salvage:** It is a requirement for supervision and administration of the work that construction operations be carried out with the maximum possible consideration given to the conservation of energy, water and materials. In addition maximum consideration shall be given to salvaging materials and equipment involved in performance of the work but not incorporated therein. Refer to other sections for required disposition of salvage materials which are the Government's property.
1. **Historical or Archeological Items:** In the event any item having apparent historical or archaeological interest is discovered in the course of the work, the Architect shall be notified immediately. Neither the item, nor the surroundings shall be disturbed until the Architect directs disposition or action.
 2. **Items and Materials Removed From the Work:** All stone, doors, windows, glass, framing, hardware and other items and materials of every nature that are to be removed from their existing installation shall be removed with care and kept intact to the extent possible, whether they are intended to be reinstalled in the work or not. All materials to be reinstalled shall be clearly marked and stored by the Contractor, to facilitate reinstallation. All material designated on the Contract Drawings to be delivered to the

Government's storage facility shall be clearly marked in accordance with the Catalog Drawings. Except as may be further directed by the Architect, all other items and materials not to be reinstalled in the work will become the property of the Contractor and shall be removed from the site and disposed of in a legal manner.

1.8 PROJECT MEETINGS

- A. **General:** Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
1. **Attendees:** Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Architect of scheduled meeting dates and times.
 2. **Agenda:** Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. **Minutes:** Accurately record significant discussions and agreements achieved. Distribute the meeting minutes to all attendees, including Owner and Architect, within 5 business days of the meeting.
- B. **Preconstruction Conference:** Schedule a preconstruction conference before starting construction, at a time convenient to Architect, but no later than thirty (30) calendar days after Award of Contract. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
1. **Attendees:** The Architect, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. **Agenda:** Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing.
 - d. Designation of responsible personnel.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for processing Applications for Payment.
 - g. Distribution of the Contract Documents.
 - h. Submittal procedures.
 - i. Preparation of Record Documents.
 - j. Use of the premises.
 - k. Responsibility for temporary facilities and controls.
 - l. Parking availability.
 - m. Office, work, and storage areas.
 - n. Equipment deliveries and priorities.
 - o. Project safety and First aid.
 - p. Security.
 - q. Progress cleaning.

- r. Working hours.

C. **Pre-installation Conferences:** Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. **Attendees:** Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
2. **Agenda:** Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c.. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Submittals.
 - g. Review of mockups.
 - h. Possible conflicts.
 - I. Compatibility problems.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's written recommendations.
 - m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Required performance results.
 - v. Protection of construction and personnel.
3. Record significant conference discussions, agreements, and disagreements.
4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. **Progress and Coordination Meetings:** Conduct progress meetings at weekly intervals. Coordinate dates of meetings with preparation of payment requests.

1. **Attendees:** In addition to the Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. **Agenda:** Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. **Contractor's Construction Schedule:** Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. **Review** present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
 - 14) Documentation of information for payment requests.
3. **Reporting:** Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

PART 3 - EXECUTION

3.1 GENERAL COORDINATION PROVISIONS

- A. **Pre-Installation Conferences:** Hold a pre-installation meeting at the project site well before installation of each unit of work which requires coordination with other work. Installer and representatives of the manufacturers and fabricators who are involved in or affected by that unit of work, and with its coordination or integration with other work that has preceded or will follow shall attend this meeting. Advise Architect of scheduled meeting dates.
- B. **Installer's Inspection of Conditions:** Require the Installer of each major unit of work to inspect the substrate to receive work and conditions under which the work is to be performed. The Installer shall report all unsatisfactory conditions in writing to the Contractor. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

- C. **Suite and Work Area Preparation:** Work is to be executed under this contract in rooms and spaces occupied by Members of Congress and their staffs. Every effort shall be made to protect those areas from damage and to preserve the normal functions conducted in those spaces. The Contractor shall coordinate all work with the Architect and submit a plan for approval that details methods to be employed to ensure preservation of work areas.
1. **The Government:** In preparation for each day's work in occupied rooms and suites, the Government will ensure that all personal items, papers, and minor office equipment are removed from desktops and work surfaces and relocated to unaffected closets or storage areas prior to commencement of each day's work period. Following work, all such items shall be returned to their previous locations. Personal computers, printers, FAXs, and similar devices shall remain connected to networks and power systems and shall not be disturbed without prior authorization in writing. In closets subject to construction operations, supplies and equipment will be removed from all shelves and relocated away from work areas. The Contractor shall, as required, remove, store, and re-install any shelves that must be relocated for access to the ceiling spaces.
 2. **The Contractor:** The Contractor shall preserve and protect all desks and equipment from damage with suitable drop cloths and panels; and shall restore to their original location any desks or equipment moved during the work. Do not step on or cause any equipment or staging to rest on any furniture and equipment. All desk and equipment moving and protection shall be performed by a Specialist in the field. Submit documentation attesting to the Specialist experience and competence.
- D. **Work Lay Out:** The Contractor shall lay out his work and shall be responsible for the correctness of all measurements. Calculate and measure required dimensions as shown within recognized tolerances. Drawings shall not be scaled to determine dimensions. Advise entities performing work, of marked lines and levels provided for their use. He shall exercise proper care to verify all figures before laying out his work, and he will be responsible for any error, omissions, discrepancies, conflicts or ambiguities therein that might otherwise have been avoided. He shall promptly inform the Architect, in writing, of any errors, omissions, discrepancies, conflicts or ambiguities in the contract documents in order that corrections or clarifications may be made before proceeding with the work. Failure to do so will be at the risk of the Contractor in proceeding.
- E. **Manufacturer's Instructions:** Where installations include manufactured products, comply with the manufacturer's applicable instructions and recommendations for installation, to the extent that these instructions and recommendations are more explicit or more stringent than requirements indicated in the contract documents.
- F. **Standard Working Hours:** The standard working hours of operation for the House Office Buildings are as follows. Work may be performed during these hours; any off-hours work shall be coordinated with the Architect and the House Superintendent:

1. Monday through Friday:

Public and office spaces:	8:00 pm to 6:00 am.
Mechanical/Electrical and service areas:	All hours (Coordinate with AOC)
Core drilling:	6:00 am to 8:00 am. Additional drilling shall be performed during night hours.

- G. **Utilities:** Tie-ins to existing utilities (chilled water, steam, electric, etc.) within the building, shall be performed at a time convenient to the Government. For the purposes of bidding, such time shall be considered as between the hours of 8:00 PM and 4:00 AM. Any such work in or affecting occupied spaces shall not commence until approval has been obtained and all materials and resources are available to perform the work in one continuous operation, with minimum disturbance.
1. **Utilities:** Utilities on or adjacent to the site, including underground services, shall remain undisturbed and in operation. The Contractor shall notify utility companies, appropriate departments of the District of Columbia and the Architect of emergencies involving unforeseen interferences of existing utility installations with work under this contract immediately upon the occurrence or discovery thereof. He shall be diligent in making such arrangements with respect to his own work on the site, and in coordinating his own work as necessary to permit the utility companies or appropriate departments of the District of Columbia involved to make the required repairs or changes.
 2. **Permits, Licenses, and Certificates:** For the Government's records, submit copies of utility permits, licenses, certifications, utility inspection reports, releases, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work. The Contractor shall pay all inspection and connection fees associated with utility hookups and connections.
- H. **Coordinate temporary enclosures** with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.
- I. **Annoyances:** The Contractor shall comply without delay, with any directives issued by the Architect for the purpose of precluding any annoyance or inconvenience to occupants of the building and the general public by operations under the contract.
- J. **Climatic Conditions:** The Contractor shall not install work at temperatures lower or higher than specified in the contract documents. All work shall be protected against damage from low or high temperatures and/or humidity, and any work not so protected or placed at temperatures or humidities lower or higher than permitted will, if damaged in any manner, be rejected and shall be removed and replaced with new work at no additional cost to the Government.

3.2 TESTING:

- A. **Contractor Responsibilities:** The Contractor shall provide inspections, tests and similar quality control services, specified in individual Specification Sections and required by governing authorities, except where they are specifically indicated to be the Government's responsibility, or are provided by another identified entity; these services include those specified to be performed by an independent agency and not by the Contractor. Costs for these services, which are the Contractor's responsibility, shall be included in the Contract Sum.
1. **Qualification for Service Agencies:** Engage inspection and testing service agencies, including independent testing laboratories, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specialize in the types of inspections and tests to be performed.
 - a. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the District of Columbia.
- B. **Retesting:** The Contractor is responsible for retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the Contractor's responsibility.
1. Cost of retesting construction revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original construction.
- C. **Associated Services:** The Contractor shall cooperate with the testing agency performing required inspections, tests and similar services and provide reasonable auxiliary services as requested. Notify the Architect sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:
1. Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
 2. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
 3. Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.
 4. Providing the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 5. Security and protection of samples and test equipment at the Project site.
- D. **Duties of the Testing Agency:** The independent testing agency engaged to perform inspections, sampling and testing of materials and construction specified in individual Specification Sections shall cooperate with the Architect and Contractor in performance

of its duties, and shall provide qualified personnel to perform required inspections and tests.

1. The agency shall notify the Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. The agency is not authorized to release, revoke, alter or enlarge requirements of the Contract Documents, or approve or accept any portion of the Work.
3. The agency shall not perform any duties of the Contractor.

E. **Coordination:** The Contractor and each agency engaged to perform inspections, tests and similar services shall coordinate the sequences of activities to accommodate required services with a minimum of delay. In addition, the Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.

1. The Contractor is responsible for scheduling times for inspections, tests, taking samples and similar activities.

3.3 CLEANING AND PROTECTION

A. **Clean and protect construction** in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Final Acceptance.

B. **Limiting Exposures of Work:** To the extent possible through reasonable control and protection methods, supervise performance of the work in such a manner and by such means which will ensure that none of the work, whether completed or in progress, will be subjected to harmful, dangerous, damaging or otherwise deleterious exposure during the construction period.

1. **Protect against possible damage** all sills, jambs and soffits of permanent openings used as passageways or through which materials are handled. Protect exposed corners, spandrels, projecting features and similar permanent work subject to damage. Cover and protect all prefinished work from damage by mortar, plaster, gypsum drywall compounds, paint, pipe-cutting lubricants, and other construction materials and operations. Use wheelbarrows equipped with rubber tires over permanently exposed floors and paving.
2. **Damage To Public Facilities:** The Contractor shall exercise extreme care and take all necessary measures throughout the progress of the work to avoid damage to streets, walks, curbs, planting, trees, existing buildings or grounds, or work performed under other contracts or by others. In the event of any such damage, he shall repair and make good such damage, as directed, to the satisfaction of the Architect.
3. **Load all trucks** leaving the site with demolition materials or loose debris in a manner that will prevent dropping of materials on streets. Fasten suitable tarpaulins over the load before they enter surrounding paved streets.

4. **Cleaning and Restoring:** Dirt and debris resulting from the operations under this contract shall be removed daily by the Contractor. Unless otherwise directed by the Architect or his authorized representative, the Contractor shall, as a condition precedent to the acceptance of the work here under, remove from the site of work all remaining plant installations, equipment, tools, materials, refuse, rubbish and waste used under or accumulated in connection with the work hereunder but not incorporated in the work, and he shall leave the building structure, grounds, streets, and all public places occupied by him in a thoroughly clean, neat and satisfactory condition. Time for completion of the contract shall include the time required for final cleanup of the premises.
- C. **Explosives:** The use of any kind of explosive in the performance of the work is prohibited, except the use of construction tools actuated by or employing explosive charges shall be permitted provided that (1) the tool is of the kind and design ordinarily used for such construction and (2) the Architect has authorized its use after determining that its use will not endanger human life or safety when properly used. Use of all such tools is subject to inspection by the United States Capitol Police.
- D. **Pressure Vessels:** The Contractor shall not operate or cause to be operated any fired or unfired pressure vessel on the job site which is not ASME approved for the pressures or temperatures and which does not have a current certificate of inspection issued as required by the Boiler and Pressure Vessel Regulations of the District of Columbia.

END OF SECTION 01310

SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION**PART 1 - GENERAL****1.1 RELATED DOCUMENTS:**

- A. **Drawings** and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.2 DESCRIPTION OF REQUIREMENTS:

- A. **General Requirements:** The Contractor shall develop schedules for this project as specified. The purpose of the schedules shall be to assure a standard against which satisfactory progress shall be judged, to determine the amount of partial payments, in accordance with Paragraph 1.4.C below; to assist the Architect in monitoring progress and coordinating the work with the user and other contractors; to monitor the scheduling of shop drawings, samples and procurement, and for evaluating the effect of proposed changes. The approval of submittals relating to the schedules shall not relieve the Contractor of any of its other obligations under this contract. The schedules shall be the Contractor's schedules under all circumstances for the entire duration of their contract on this project. The contractor shall reflect the total time for completion required in Document 00800 as their total project duration. This duration shall be no more or no less than shown in Document 00800.

1.3 SUMMARY OF THE WORK:

- A. **60-Day Network Schedule:** Within 20 work days after receipt of the Award of Contract, the Contractor shall provide a detailed time scaled CPM Network Schedule, (including the data required in Paragraph 1.3.C) for the first 60 work days of operation with a summary time scaled CPM type diagram for the remainder of the contract. After acceptance of the 60-day network schedule described above, the Contractor may make application for payment for activities started or completed that are included in the detailed portion of that schedule. No payments will be made for work not included in that schedule. No payments will be made for work beyond the first 60 work days until the Contractor and the Architect have approved the detail schedule as required by paragraph 1.3.B below.
- B. **Detailed CPM Development:** The Contractor and his major subcontractors shall propose project activities, sequences and durations, which shall be translated into a detailed network schedule for the entire work of the contract, including the work included in the 60 day schedule. Within sixty (40) work days of his receipt of the award of contract, the Contractor shall submit its proposed schedule for acceptance. The schedule shall be in accordance with the requirements of Paragraph 1.3.C and shall be submitted on a high density diskette, in the latest version of Primavera Project Planner on a Windows/NT compatible platform. The submittal shall also include two (2) sets of network drawings, associated computer printouts; Activity Listing, Float, and Cost by Cost Account Code and certification from subcontractors that they have reviewed and concur with the proposed schedule, as it relates and interrelates with their work and the cost loading for each activity is sufficient. Submission of these certifications is required prior to

acceptance of the schedule by the Architect. The work activities shall be coded by work area so that the submitted network drawings can be examined for logic, duration and criticality. The longest path through the project schedule shall be highlighted on the network drawings. After acceptance by the Architect of the submitted schedule, it will be designated as the Approved Project Schedule.

1. **If the Contractor proposes** to use another scheduling software, it may do so provided that:
 - a. The proposed software is acceptable to the Architect.
 - b. The Contractor provides to the Architect one original network software package authorized by the manufacturer. This includes all software necessary to use and interpret the network software selected by the contractor.
 - c. The contractor coordinates with the Architect to provide training for up to five of the Architect's personnel within thirty (30) work days after approval by the Architect to use the proposed software. Training is to be provided by the software manufacturer or authorized representative on site or in the metropolitan Washington, D.C. area, at the contractor's expense.
2. **The Approved Project Schedule** shall then constitute the schedule to be used by the Contractor for executing the work under the contract; including, but not limited to, planning, organizing, directing the work and reporting progress until subsequently revised in accordance with the requirements of Paragraph 1.4.B below. The Contractor agrees that no partial payments will be authorized or effected under the Contract (other than those provided for in the 60 work day schedule described in 1.3.A) until the above project schedule is accepted as meeting the scheduling requirements as herein defined by the Architect.
3. **Float** shall not accrue to the exclusive benefit of either the Contractor or the Architect. Extensions of the contract time for performance will be considered only to the extent that activities affected are delayed beyond the float available at the time the delay occurs and that the additional work activities do, as a result of their addition to the schedule, delay the project completion date that existed at the time that the additional work was accomplished.
4. **The schedule** shall clearly identify major contract events for this contract as well as other events which the Architect may identify from time to time as necessary for scheduling and coordination.

C. Network Diagram and Computer Printout Requirements:

1. **The Contractor-developed** network diagram shall show the sequence, interdependencies and time estimates for all activities required for complete performance of the work under this contract. All activities shall have durations clearly indicated on the network diagram. The logic shall consider and illustrate the following:
 - a. Work (Activities) required to be completed before each activity can be started.
 - b. Work (Activities) which can be done concurrently with other work.

- c. Work (Activities) required to be started immediately following the completion of each activity.
 - d. Work (Activities) which may be started after the start of another activity and the time lag between the starts.
 - e. Work (Activities) which may be finished after the finish of another activity and the time lag between the finishes.
 - f. Work (Activities) which may not be started until after the finish of another activity and the time lag, if any, after the finish.
2. **In preparing the CPM schedule**, the Contractor shall make logical and consistent divisions of the work into construction activities such that the duration of each activity shall not exceed fifteen (15) working days. Should an activity require more than fifteen (15) working days, it shall be subdivided into measurable identifiable elements of fifteen (15) working days or less each. Non-construction activities (such as procurement and shipping times) may have duration in excess of fifteen (15) working days. The Contractor may include activities which are the responsibility of the Architect of the Capitol such as approvals or the inclusion of Architect of the Capitol supplied materials. However, these shall be subject to prior review and approval of duration and logic by the Architect of the Capitol.
3. **The Contractor** shall assign and submit a dollar value for each activity, subject to acceptance by the Architect. The total of the activity values shall equal the contract amount. General conditions, overhead and profit shall be prorated to all the activities, unless the contractor's proposed schedule indicates a completion date earlier than that specified in Document 00800. In this case, the contractor's general conditions, overhead and profit shall be prorated over the entire time for performance specified in Document 00800. Activity values shall be related and summarized to match any schedule of values required elsewhere in this contract. The accepted activity values shall be used as the basis in determining all partial payments. For this purpose, the rate of activity value installation into the work shall be assumed to be linear with time. These values need not be included on the Network Diagram, but shall be shown on the appropriate computer printouts described in Paragraph 1.3.C.10.
4. **Submittal and procurement activities** required in the schedule shall include as a minimum the following information for each item:
- a. Preparation time.
 - b. Review and approval time (in the event of rejection, the time necessary for re-submission and review will not be considered for any time extension to the contract duration).
 - c. Ordering/fabrication/delivery time.
 - d. Reference to appropriate specification section, drawing, etc.
5. **With exception** of any time-dependent requirements imposed by this contract in the GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, General Requirements, Specifications, Drawings and Supplements thereto, no dates or time intervals assumed and utilized by the Contractor in the preparation of his network diagram and schedule shall be binding upon, or receive the automatic acceptance of, the Architect. Errors in logic or failure of the Contractor to include any element of the work required for the performance

of the contract shall not excuse him from completing all the work required for the performance of the contract within the time for completion specified in the SUPPLEMENTARY CONDITIONS, regardless of the Architect's acceptance of the Project Schedule.

6. **The Contractor** shall provide a list of the holidays and non-work days applicable to the schedule at the first schedule submission for the contract duration plus one year.
 7. **The CPM schedule** shall contain the following information for each activity:
 - a. Activity or Node Number.
 - b. Activity Description.
 - c. Activity Duration.
 - d. Performing Organization (or subcontractor responsibility).
 - e. Manpower by Trade (manhours for each trade).
 - f. Equipment (other than small tools)
 8. **In preparing the CPM schedule**, the contractor shall make use of coding (in addition to that cited in other parts of this Section) that helps identify specific parts of the work. The Architect reserves the right to direct coding.
 9. **The CPM schedule** shall clearly identify the component activities, and shall illustrate accomplishment of the time for completion set forth in the contract. If the work under this contract indicates an earlier completion time than set forth in the contract, the float (or slack) between the schedule and the contract completion date shall be shown on the computer printout and shall be considered to be part of the total float available to the project.
 10. **Computer printouts** shall be produced (two (2) copies for the Architect of the Capitol) by the Contractor in sorts and summaries providing breakdown as follows:
 - a. Node Number (ascending order).
 - b. Total Float (by early start and in ascending order).
 - c. Cumulative Cost Report; i.e., listing dollar value of each activity, to date percent completed and amount earned through current report, cost this period and cost to complete.
- D. **Consultant:** To assist in the preparation and production of network diagrams and types of computer-produced reports required under this section, the Contractor shall engage, at its own expense, a consultant having the following minimum qualifications (except that the Contractor may perform these services with its own organization if said organization meets or exceeds the following requirements applicable to the consultant):
1. Has at least one full-time employee skilled in the application of CPM network techniques to construction projects of the magnitude and complexity of this project and is experienced with preparing the fragnets required in support of change orders. This person or consultant will be assigned to this project for the total duration of the project. In the event it is necessary to change this individual, the Architect of the Capitol will be given advance notice of the change and provided an opportunity to evaluate the proposed replacement. The Architect of the Capitol reserves the right to reject any individual or consultant replacement who does not meet all of the requirements.

2. Prior to engaging a consultant or commencing performance of the work required under this Section with his own forces, the Contractor shall submit to the Contracting Officer:
 - a. The name and address of the proposed consultant; and the names of the proposed staff members of that organization who will be assigned to this project.
 - b. Information sufficient to show that the proposed consultant or the Contractor's own organization has staff and computer facilities meeting the requirements specified in this Section and
 - c. A list of prior projects for which the proposed consultant, or Contractor's own organization, or staff thereof has performed services similar to those required under this contract. The Government shall have the right to approve or disapprove employment of the consultant proposed, or the staff members of the Contractor's own organization. In the event the Contractor chooses to use a consultant, that consultant shall be retained and used during the life of the Contract to prepare fragments necessary to show the insertion of supplements and for change orders into the network. This will be at the Contractor's expense.

1.4 PROGRESS OF WORK/PARTIAL PAYMENTS:

- A. **General:** The work shall be prosecuted at a rate of progress which will insure that the Contractor will meet the specified completion dates required by the contract. By execution of the contract, the Contractor represents, in addition to those representations specifically described in the Article entitled, Site Investigation and Conditions Affecting the Work of the GENERAL CONDITIONS, that he has analyzed the work, the materials and methods involved, the systems of the building, availability of qualified mechanics and unskilled labor, restrictions of the site, constraints imposed, his own work load and his capacity to perform the work.
- B. **Project Schedule Updating:**
 1. **The Schedule Updating** shall be accomplished by the Contractor and will include the following: (5 printed copies for the Architect of the Capitol)
 - a. Activity Listing
 - b. Total Float Report
 - c. Update Report
 - d. Cumulative Cost and Summary Cost Reports
 - e. A computer disk of the updated schedule containing the information referenced above
 2. **The Project Schedule**, following its initial acceptance, shall be updated by the Contractor on a monthly basis, or more often as required, for the purpose of recording and monitoring the progress of the work and establishing the value of partial payment, in accordance with Paragraph 1.4.C below. The Contractor shall meet, as specified above, with the Architect to review actual progress made to date, activities started and completed to date, and the percentages of work completed to date on each activity started but not completed. In disagreements concerning actual Progress to Date, the Architect's determination will govern.

3. **If the work** under this contract falls behind schedule, or indicates a trend that the project is moving in that direction, the Contractor must provide a narrative description as well as a list of any logic changes of the action to be taken to insure that the work will be completed within the time for completion specified in the Contract.
4. **The Contractor** shall submit revisions to the logic sequencing in the event the execution of his work differs from that shown on the Approved Project Schedule or if the conditions in 3. above exist. If the Contractor for any other reason desires to make changes in the Approved Project Schedule to incorporate revisions, he shall notify the Architect, in writing, stating the reason for the proposed revision. If the Architect considers such proposed revisions to be of a major nature, he may require the Contractor to revise and submit for approval, without additional cost to the Government, all or the affected portion of the detailed CPM schedule to show the probable effect on the entire project. The revised schedule shall not, under any circumstances, cause the project to be further behind schedule than the last update of the Contractor's schedule. The revised data shall consist of one copy of the network diagram and associated computer printouts, as well as a high density disk as discussed in Section 1.3.B.2. Within ten (10) work days from the date of his receipt of the disk, the Architect of the Capitol shall notify the Contractor of any discrepancies noted herein. The Contractor shall then meet with the Architect for mutual acceptance of the computerized printout and network diagrams, which shall then be identified as the Accepted Project Schedule (revised Date). This revised Project Schedule shall then supersede the previously accepted schedule and shall constitute the schedule to be used by the Contractor for executing the work as outlined in Paragraph 1.2.A, above. If revision to the schedule logic sequence is contemplated, the Contractor or Architect shall so advise the other, in writing, at least two (2) weeks prior to the next schedule updating, describing the revision and setting forth the reasons therefore. The next schedule update will be processed upon approval, by the Architect, of the schedule revision. All reasonable requests by the Contractor for schedule revisions will be considered by the Architect, and approved at his discretion. Should the Contractor not revise the schedule of the remaining work activities to reflect the new proposed sequence of work, the Contractor may be denied any reduction of retainage.
5. **Revisions to the schedule**, directed by the Architect of the Capitol, shall be implemented upon written notice to the Contractor. The Contractor shall provide timely response within ten (10) work days of such notice, indicating what effect the revision will have on the overall schedule. Changes to the schedule which are made on an update to reflect actual progress are not revisions to logic sequence and schedule.
6. **To the extent** that the network schedule or any revised network diagram prepared by the Contractor shows anything not jointly agreed upon, it shall not be deemed to have been accepted by the Contracting Officer. Failure to include any element of work required for the performance of this contract shall not excuse the Contractor from completing all work required within any applicable completion date of each phase regardless of the Contracting Officer's approval of the network schedule.
7. **When a Modification** (as defined in the OFFICIAL PROCEDURES FOR MAKING CHANGES IN CONTRACTS) has been issued, the Contractor will develop and submit to the Architect of the Capitol, a fragnet which meets the required criteria of Section 1.3.C.1, .2, and .3. The fragnet shall be accepted prior to supplemental agreement approval. No additional charge by the Contractor shall be made for the development of fragnets. They shall be considered to be overhead cost to the Contractor.

- C. **Construction Reports:** The Contractor shall maintain a log of all construction activities on daily bases. The Contractor shall provide a red markup of all the changes on the construction documents.
- D. **Partial Payment:** The Contractor shall provide to the Architect, on a monthly basis or more often as required, information on the percentage completion of each activity on the CPM Schedule for which work was accomplished during that monthly period. Upon approval of this progress data, by the Architect, it will be incorporated into the CPM Schedule by the Contractor and the resulting document will be issued by the Contractor as the Project Schedule Update. The Project Schedule Update shall be an integral part and basic element of the Architect's determination of the Contractor's entitlement to partial payment. If, in the judgement of the Architect, the Contractor fails or refuses to provide information required to accomplish a complete Project Schedule Update or revisions, as specified, the Contractor will be deemed to have failed to provide the Architect with a sufficient basis for determination of partial payments and until the specified information has been submitted to, and has received the acceptance of, the Architect, the Contractor shall not be entitled to such partial payments. Partial payment will be verified on the basis of the sum, for all activities, determined by multiplying percentage of completion of the activity by the activity cost value for each activity in progress.
- E. **Partial Payment for Stored Materials:**
1. **In determining the amount** of any partial payment for stored materials on site, the Contractor shall meet the following requirements:
 - a. The "fabrication and delivery" of such equipment or "procurement and delivery" of such material have been identified as separate CPM Schedule activities, in accordance with Paragraphs 1.3.C.3 and 1.3.C.4.
 - b. Properly executed bills of sale therefore, and such other evidence of ownership as the Architect may require, have been presented.
 - c. The quality and value of the equipment or material have been established, by such evidence as the Architect may require, that the minimum specification requirements are met or exceeded..
 2. **Except for materials and equipment** meeting the above requirements, no partial payments will be made for equipment or materials stored on site.
 3. **The Architect will pay**, exclusive of retention, an amount as partial payment, verified by the Contractor in accordance with the above requirements, which have been delivered to the site of the work.
- F. **Responsibility for Completion:**
1. **The Contractor** shall furnish sufficient forces, plant and equipment, and shall work such hours, including night shift and overtime operations, as necessary, to insure the prosecution of the work in accordance with the current Accepted Project Schedule. If, in the opinion of the Architect, the Contractor falls behind in meeting the schedule, the Contractor shall take such steps as may be necessary to improve his progress, and the Architect may require him to increase the hours of work (except Saturdays, Sundays and

holidays), the number of shifts, overtime operations, and/or the amount of construction plant and equipment, without additional cost to the Government. The provisions of this Subsection shall not be construed as prohibiting work on Saturdays, Sundays and holidays, if the Contractor so elects and if approved. Additionally, the Contractor shall immediately reschedule activities to achieve maximum practical concurrence of accomplishment of activities.

2. **Failure of the Contractor** to comply with the requirements of this Subsection shall be a basis for determination by the Architect that the Contractor is not prosecuting the work with such diligence as will insure completion within time stipulated in the SUPPLEMENTARY CONDITIONS. Upon such determination, the Architect may terminate the Contractor's right to proceed with the work, or any separable part thereof, in accordance with the provisions of the Article entitled "Default (Fixed Price Construction)" of the GENERAL CONDITIONS, or may take such other actions as may be deemed appropriate.

G. Adjustment of Times for Completion:

1. **The time for completion** of the contract work will be adjusted only in accordance with the requirements of this Article, and applicable sections of the GENERAL CONDITIONS.
2. **Any request** for an adjustment of the time for completion submitted by the Contractor for changes or alleged delays shall be accompanied by a complete Time Impact Analysis, which shall be submitted for approval within twenty-one (21) work days after the Contractor receives its initial notice.
3. **Each Time Impact Analysis** shall provide information justifying the request and stating the extent of the adjustment requested for each specific change or alleged delay. The Time Impact Analysis shall be provided to the Architect at no cost to the Government. Each Time Impact Analysis shall be in a form and content acceptable to the Architect, and shall include, but not be limited to, the general information set forth in this section appropriate to the type of request (i.e., change or alleged delay), plus the following:
 - a. A fragmentary CPM network (fragnet) illustrating how the Contractor proposes to have the change or alleged delay incorporated into the current Project Schedule and;
 - b. Identification of the preceding and succeeding activities in the current Project Schedule to which the fragnet is to be connected, together with engineering estimates and other appropriate data justifying the proposal.
4. **The analysis** shall clearly show that the Contractor has used in full all the activity float time available for the work involved in this request.
5. **The Time Impact Analysis** shall be based upon the dates when the change or changes were issued, or the dates when the alleged delay or delays began, the status of the work at that time, and shall include time computations for all affected activities.
6. **If the Contractor** does not submit a Time Impact Analysis for a change or alleged delay, or if the Architect does not agree with the Contractor's Time Impact Analysis for a change or alleged delay, the Architect will determine the time impact, if any, of the change or alleged delay. The Architect's determination will be final and conclusive, subject only to the Contractor's rights of appeal as provided in the Article entitled "Disputes" of the GENERAL CONDITIONS.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01320

SECTION 01500 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. **Drawings and general provisions** of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. **This Section** includes requirements for construction facilities and temporary controls, including temporary utilities, support facilities, and security and protection.
- B. **Temporary utilities include**, but are not limited to, the following:
1. Water service and distribution.
 2. Temporary electric power and light.
 3. Temporary heat.
 4. Ventilation.
 5. Telephone service.
 6. Sanitary facilities, including drinking water.
 7. Storm and sanitary sewer.
- C. **Support facilities include**, but are not limited to, the following:
1. Field offices and staging areas.
 2. Temporary enclosures.
 3. Hoists and temporary elevator use.
 4. Temporary project identification signs and bulletin boards.
 5. Construction aids and miscellaneous services and facilities.
- D. **Security and protection facilities include**, but are not limited to, the following:
1. Temporary fire protection.
 2. Barricades, warning signs, and lights.
 3. Environmental protection.
 4. Temporary Partitions.

1.3 USE CHARGES

- A. **General:** Cost or use charges for temporary facilities are not chargeable to the Government and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:
1. Government's construction forces.

2. Architect.
 3. Testing agencies.
 4. Personnel of authorities having jurisdiction.
- B. **Use Charges:** No cost or usage charges for temporary services or facilities are chargeable to the Government. Cost or use charges for temporary services or facilities will not be accepted as a basis of claims for a change-order extra. All materials and equipment provided by the Contractor for temporary facilities shall remain the property of the Contractor.
- C. **Water Service:** Use water from the Government's existing water system without metering and without payment of use charges.
- D. **Electric Power Service:** Use electric power from Government's existing system without metering and without payment of use charges.

1.4 SUBMITTALS

- A. **Temporary Utilities:** Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.
- B. **Implementation and Termination Schedule:** Within 15 days of the Award of Contract, submit a schedule indicating implementation and termination of each temporary utility.

1.5 QUALITY ASSURANCE

- A. **Regulations:** Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
1. Building code requirements.
 2. Health and safety regulations.
 3. Utility company regulations.
 4. Police, fire department, and rescue squad rules.
 5. Environmental protection regulations.
- B. **Standards:** Comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."
1. **Electrical Service:** Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 "National Electric Code."
- C. **Inspections:** Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

- A. **Temporary Utilities:** Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Architect, change over from use of temporary service to use of permanent service.
 - 1. **Temporary Use of Permanent Facilities:** Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Government acceptance, regardless of previously assigned responsibilities.
- B. **Conditions of Use:** Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. **General:** Provide new materials. If acceptable to the Architect, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.
- B. **Lumber and Plywood:** Comply with requirements in Division 6 Section "Rough Carpentry."
 - 1. For job-built temporary offices, shops, and sheds within the construction area, provide labeled, fire-treated lumber and plywood for framing, sheathing, and siding.
 - 2. For fences and vision barriers, provide minimum 3/4-inch- (19-mm-) thick exterior plywood, fabricated and painted as indicated.
 - 3. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch- (16-mm) thick exterior plywood.
- C. **Gypsum Wallboard:** Provide gypsum wallboard on interior walls of temporary offices.
- D. **Paint:** Comply with requirements of Division 9 Section "Painting."
 - 1. For job-built temporary offices, shops, sheds, fences, and other exposed lumber and plywood, provide satin or semi-gloss exterior-grade acrylic-latex emulsion over exterior primer.
 - 2. For sign panels and applying graphics, provide exterior-grade alkyd gloss enamel over exterior primer.
 - 3. For interior walls of temporary offices, provide 2 coats interior latex-flat wall paint.
- E. **Tarpaulins:** Provide waterproof, fire-resistant, tarpaulins labeled by UL or another nationally recognized testing and labeling authority with flame-spread rating of 15 or less. For temporary

enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.

- F. **Water:** Provide potable water approved by local health authorities.
- G. **Open-Mesh Fencing:** Provide 0.120-inch-(3-mm-) thick, galvanized 2-inch (50-mm) chainlink fabric fencing 6 feet (2 m) high with galvanized barbed-wire top strand and galvanized steel pipe posts, 1-1/2 inches (38 mm) I.D. for line posts and 2-1/2 inches (64 mm) I.D. for corner posts.

2.2 EQUIPMENT

- A. **General:** Provide new equipment. If acceptable to the Architect, the Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.
- B. **Water Hoses:** Provide 3/4-inch (19-mm), heavy-duty, abrasion-resistant, flexible rubber hoses 100 feet (30 m) long, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.
- C. **Electrical Outlets:** Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-Volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.
 - 1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
 - 2. Provide warning signs at power outlets other than 110 to 120 V.
 - 3. Provide metal conduit, tubing, or metallic cable for wiring exposed to possible damage. Provide rigid steel conduits for wiring exposed on grades, floors, decks, or other traffic areas.
 - 4. Provide metal conduit enclosures or boxes for wiring devices.
 - 5. Provide 4-gang outlets, spaced so 100-foot (30-m) extension cord can reach each area for power hand tools and task lighting. Provide a separate 125-VAC, 20-A circuit for each outlet.
- D. **Electrical Power Cords:** Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
- E. **Lamps and Light Fixtures:** Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.

- F. **Fire Extinguishers:** Provide hand-carried, portable, UL Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.
1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. **Use qualified personnel** for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. **Provide each facility** ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. **General:** Coordinate service with the Architect. Where the Architect provides only part of the service, provide the remainder with matching, compatible materials and equipment.
1. Arrange with the Architect for a time when service can be interrupted, if necessary, to make connections for temporary services.
 2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 3. Obtain easements to bring temporary utilities to the site where the Architect's easements cannot be used for that purpose.
 4. **Use Charges:** Cost or use charges for temporary facilities are not chargeable to the Government. The Government will accept cost or use charges as a basis of claims for Contract Modifications.
- B. **Temporary Electric Power Service:** Electrical energy will be supplied by the Government, but the Contractor shall install and maintain all necessary conduit, wiring, and devices needed to execute the work. Install all wiring in flexible conduit or armored cable with minimum No. 12 gage wire. Portable cords for small power tools shall be properly grounded and installed as approved by the Architect. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for plug-in connection of power tools and equipment. The Government will not be held responsible for power outages beyond its control.
- a. **Comply with applicable NEMA, NECA and UL standards** and governing regulations for materials and layout of temporary electric service, including those requirements included in Division-16 sections.

- b. **Computer Circuits:** DO NOT PLUG POWER TOOLS into receptacles or circuits that power Government computers or computer peripherals. Such circuits may or may not be identified by "orange" receptacles. Clear all power connections with the Architect prior to energizing tools.
- C. **Temporary Lighting:** Provide temporary task lighting that will provide adequate illumination for construction operations and traffic conditions.
- D. **Temporary Heat and Cooling:** Furnished and maintained by the Government.
- E. **Ventilation and Humidity Control:** As required, provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- F. **Temporary Telephones:** Arrange for the local telephone company to install temporary service to the project or provide cellular service to the contractor's site superintendent.. Location of telephones and telephone wires is subject to Architect's approval.
- G. **Toilets:** Use of designated Government toilet facilities will be permitted, provided facilities are cleaned and maintained in a condition acceptable to the Architect. Prior to inspection for Final Acceptance, restore these facilities to the condition prevalent at the time of initial use.

3.3 SUPPORT FACILITIES INSTALLATION

- A. **Temporary office space** and staging shall be located on Garage levels within the existing building. Coordinate location and access with the Architect to avoid interference with work to be performed by others. Temporary office space for Architect's personnel is not required for this project.
 - 1. **On-Site Fabrication:** All pipe fabrication, cutting, threading, etc., shall be performed within approved staging areas located on Garage Levels of the Rayburn House Office Building or in other areas designated by the Architect. Prior to removing any fabricated components from staging areas, the Contractor shall affix approved end caps or coverings to every pipe or fitting opening to prevent the leakage of any preservation or fabrication oils onto any building surface. Do not remove such protection until the pipe or fitting is being installed and suitable drip protection is provided under such installation sites.
- B. **Storage and Fabrication Sheds:** Install storage sheds sized, furnished, and equipped to accommodate materials and equipment involved. Sheds may be modular units or fully enclosed spaces within the building or elsewhere on-site, subject to approval of the Architect.

- C. **Temporary Enclosures:** Provide temporary enclosures, as required, for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.
- D. **Temporary Lifts and Hoists:** Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- E. **Temporary Elevator Use:** Use of existing elevators will be permitted, as long as elevators are cleaned and maintained in a condition acceptable to the Architect.
 - 1. **Protection:** Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. **Environmental Protection:** Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations. Avoid use of tools and equipment that produce harmful noise.
- B. **Temporary Partitions:** At work staging areas, erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.
 - 1. **Construct dustproof partitions** of not less than nominal 4-inch (100-mm) studs, 5/8-inch (16-mm) gypsum wallboard with joints taped on occupied side, and 1/2-inch (13-mm) fire-retardant plywood on construction side.
 - 2. **Insulate** partitions to provide noise protection to occupied areas.
 - 3. **Seal joints** and perimeter. Equip partitions with dustproof doors and security locks.
 - 4. **Protect** air-handling equipment.
 - 5. **Weatherstrip** openings.
- C. **Except for use of permanent fire protection** as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Final Acceptance.
- D. **Temporary Fire Protection:** Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations."
 - 1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
 - 2. Store combustible materials in containers in fire-safe locations.

3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for fighting fires. Prohibit smoking in hazardous fire-exposure areas.
 4. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition. Maintain fire watch for a period of 2-hours following cessation of any cutting or welding operations.
- E. **Permanent Fire Protection:** At the earliest feasible date in each area of the Project, complete installation of the permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
- F. **Barricades, Warning Signs, and Lights:** Comply with standards and code requirements for erection of adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against.
- G. **Storage:** Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. **Supervision:** Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. **Maintenance:** Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
1. **Protection:** Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. **Termination and Removal:** Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than prior to inspection for Final Acceptance. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Immediately prior to inspection for Final Acceptance, clean and renovate permanent facilities used during the construction period including, but not limited to, the following:
 - a. Replace significantly worn parts and parts subject to unusual operating conditions.

END OF SECTION 01500

SECTION 01546 - SAFETY AND HEALTH**PART 1 - GENERAL****1.1 DESCRIPTION OF WORK:**

- A. **General:** This section, general in nature, is applicable to all work performed under this contract and identifies some of the precautions necessary to protect the safety and health of employees, visitors, occupants and contract employees, and to prevent the loss of or damage to property and the environment.
1. Note the Construction Contractor submittal requirements outlined in Part 1 paragraph "Submittals" of this Section.

1.2 REFERENCES:

- A. **General:** The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. Exclusion of any specific regulations/standards required by Federal and/or local codes does not relieve the Contractor of their legal and contractual obligations to adhere to such requirements.
- B. **National Standards / Code of Federal Regulations (CFRs):**
1. 29 CFR 1910 - OSHA Occupational Safety and Health Standards.
 2. 29 CFR 1926 - OSHA Safety and Health Regulations for Construction.
 3. 40 CFR Parts 700-799, Subchapter R - Toxic Substance Control Act (TSCA).
 4. 40 CFR Parts 50-99, Air Programs.
 5. 40 CFR Parts 260-299, Hazardous Waste Management System (radionuclides).
 6. 40 CFR Part 761 - Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.
 7. 40 CFR Parts 104-140 and 401-471, Water Programs.
 8. DOT Manual of Uniform Traffic Control Devices.
 8. Americans with Disabilities Act (ADA), current with updates.
- C. **Related Building and System Codes:**
1. International Building Code (IBC), 2003.
 2. International Existing Building Code (IEBC), 2003.
 3. National Fire Code - NFPA 101, 2003.
 4. International Electrical Code, 2003; and related NEMA, NECA, and UL Standards.
 5. International Mechanical Code, 2003.
 6. International Plumbing Code, 2003.
- D. **Federal Standard 313A - Material Safety Data Sheets, Preparation and Submission.**
- E. **Related** District of Columbia, state, and local regulations shall apply.

1.3 DEFINITION OF HAZARDOUS MATERIALS:

- A. **General:** Refer to hazardous and toxic materials/substances, Subparts H and Z of 29 CFR 1910

and related parts of 29 CFR 1926; 40 CFR 261; and to others as defined in Federal Standard 313.

- B. **Those hazardous materials** most commonly encountered can include pesticides, cleaning agents, paints, adhesives, strippers, solvents, asbestos, polychlorinated biphenyls (PCB's), mercury vapor lamps, but may include others. Any unlabeled substance should be handled as hazardous material until properly identified.
- C. **All suspect asbestos containing materials** (e.g., boiler insulation, duct insulation, pipe insulation), surfacing materials (i.e., plaster and sprayed-on fireproofing) and miscellaneous materials (i.e., asphalt flooring, ceiling tiles, adhesives and mastics, drywall, roofing, gaskets and cement board), must be considered asbestos containing unless proven otherwise in accordance with 29 CFR 1926.1101.
- D. **Pre-1978 Surfaces:** All finished/painted surfaces of buildings constructed prior to 1978 shall be considered finished with lead based paint unless proven otherwise.
- E. **Products likely to contain PCB's** include electrical transformers, capacitors, voltage regulators, oil switches, and some fluorescent light ballasts. Transformer vaults with PCB contaminated floors are identified by signage at the entry door (refer to Part 3 of this Section, article "Cautionary Procedures at Existing Vaults").
- F. **Products likely to include mercury** include fluorescent light tubes, switches, gauges, thermostats, and older thermometers.

1.4 QUALITY ASSURANCE:

- A. **Pre-Construction Safety Meeting:** Representatives of the Contractor must meet with the Contracting Officer and his/her representative(s) prior to the start of work under this contract. The purpose of the pre-construction meeting is to review the Contractor's Safety and Health Program and Policies, and to discuss the implementation of all safety and health provisions pertinent to the work to be performed under the contract. The Contractor shall be prepared to discuss, in detail, the measures he/she intends to take in controlling any unsafe or unhealthy conditions associated with the work to be performed under the contract. If directed by the Contracting Officer, this meeting may be held in conjunction with other pre-construction meetings such as the General Pre-Construction meeting. The level of detail of the safety meeting is dependent upon the nature of the work and the potential inherent hazards. The Contractor's principal on-site representative(s), the general superintendent and his/her safety representative(s) shall be in attendance.
- B. **Compliance With Regulations:** All work, including contact with the handling of hazardous or regulated materials, the disturbance or dismantling of structures containing hazardous or regulated materials, and/or the transport and disposal of hazardous or regulated materials shall comply with the applicable requirements of 29 CFR 1910/1926, 40 CFR, 49 CFR, and all other applicable federal, state, and local regulations.
- C. **Construction Site Lighting:** Lighting intensity levels for construction areas shall meet the minimum requirements established by 29 CFR 1926.56: Illumination, including *Table D-3 - Minimum Illumination Intensities in Foot-Candles*.
- D. **Compliance/Conflicts:** All work shall comply with applicable Federal, state and local safety

and health requirements. Where there is a conflict between applicable regulations, the most stringent shall take precedence.

- E. **Contractor Responsibility:** All Contractors shall assume full responsibility and liability for compliance with applicable regulations pertaining to the health and safety of personnel during the execution of work, and shall hold the Government harmless for any action on his/her part, or that of his/her employees or subcontractors, which results in illness, injury or death. The Contractor shall designate a single point-of-contact who is authorized to act on behalf of the contracting firm, authorized to take immediate corrective actions, and assigned the task of daily inspections and reporting outlined herein. Construction Contractors shall comply with the following additional requirements in accordance with 29 CFR 1926.16 (Prime/Subs):
1. Compliance with the accepted Accident Prevention Plan written by the prime Contractor for the specific work, submitted to the government, and reviewed by the COTR. The Contractor's plan will be job specific and will include work to be performed by the subcontractors, and measures to be taken by the Contractor to control hazards associated with materials, services, or equipment provided by suppliers.
 2. Regularly scheduled safety meetings shall be held at least once a week for all supervisors on the project to review past activities, to plan ahead for new or changed operations, and to establish safe working procedures for the anticipated hazards. An outline of each meeting shall be submitted through the COTR to the Contracting Officer.
 3. At least one "toolbox" safety meeting shall be conducted every day before start of work by field supervisors or foreman for all workers. An outline report of the meeting, including date, time, duration, attendance, subjects discussed and the name of the director shall be maintained and copies furnished to the designated authority on request.

1.5 SUBMITTALS:

- A. **Submittal "Punch-List:"** A submittal punch list for projects involving "other" hazardous materials as identified in the Construction Contractor's Safety and Health Program and Policies (paragraph B, below) and/or other recognized flammable or toxic products identified in the referenced codes/standards.
- B. **Contractor's Safety and Health Program and Policies:** Submit a Plan of Action for handling hazardous materials (except for asbestos, lead based paint, PCBs and mercury lamps as they are covered by specific sections) and/or flammable or toxic products. Work shall not commence until the Contractor's safety program has been reviewed by the Architect. The Construction Contractor's Plan of Action shall contain the following:
1. Activity Hazard Analysis and Accident Prevention Plan: Identification of anticipated hazards, problems, and proposed mitigation measures/mechanisms.
 2. Description of how applicable safety and health regulations and standards are to be met.
 3. Protection of the public or others not related to the operation. Maintain code-compliant means of egress for project duration.
 4. Means of protection for adjacent non-construction areas, permanent and temporary access ways, and occupants and for controlling noise/dust/fumes/debris generated by the work.
 5. Contractor Safety Officer: Identify a lead Safety Officer and alternates, including 24-hour contact information for each.
 6. Specialized training and experience of employees to be used for the work.
 7. Type of protective equipment and work procedures to be used.

8. Material Safety Data Sheets (MSDSs) for, and proposed procedures for using, disposing of, or storing toxic/hazardous materials (also see 29 CFR 1910.1200). All management and disposal of wastes shall be in accordance with Federal, states and local regulations.
 9. Phasing requirements to minimize impact to non-construction work activities.
 10. Emergency procedures for handling accidental spills, releases or potential exposures.
 11. Interfacing of trades and control of subcontractors, if applicable.
 12. Identification of any required analyses, test demonstrations, and validation requirements.
 13. Hazard Communications Plan.
 14. Trenching and Shoring Plan.
 15. Confined Spaces employee certifications and related work procedures.
 16. Multi-Employer Worksite Plan.
 17. Demolition plans outlining protective measures and responsibilities required under 29 CFR 1926, Subpart T.
- C. **Accident Reporting:** Serious accidents such as those resulting in: treatment of an injury at a medical facility; response by emergency medical personnel; or damage to property other than that of the Contractor will be reported to the contracting officer's representative by telephone within twenty-four hours of the occurrence. A copy of each accident report, which the Contractor or subcontractors submit to their insurance carriers, shall be forwarded through the Contracting Officer's Technical Representative (COTR) to the Contracting Officer (CO) as soon as possible (in no event later than seven (7) calendar days after the occurrence). All accidents/losses shall be reported using AOC "Incident Investigation Report" (from AOC Safety Policy 9-4, available from the COTR) or other form that meets OSHA Standards, as required. Any incident involving fatality or permanent total disability, or property damage to the Government or other property amounting to \$100,000 or more requires immediate notification of the AOC Safety and Occupational Health Branch (SOHB).
- D. **MSDSs:** The Contractor shall provide copies of each MSDS, in accordance with 29 CFR 1910.1200 - *App E* and with AOC 52.223-1. One copy shall be provided to the COTR per Division 1 submittal requirements, and a second copy shall be kept in an MSDS binder on the job site.
- E. **Waste Disposal:** The Contractor shall dispose of all wastes and provide all paperwork, including but not limited to, manifests and disposal certifications, in accordance with all federal, state, and local regulations. Asbestos waste shall be accompanied by an Asbestos Shipment Record. The AOC shall sign manifests, certifications, and shipping records for lead, asbestos, and PCB wastes generated from this contract.
- F. **Hot Work Permits:** When coordinating with the AOC's jurisdiction Superintendent for hot work, submit AOC designated "Hot Work Permit" (from AOC Safety Policy 10-14, available from the COTR) or other form that meets OSHA Standards, as required.
- G. **Worker Certifications:** The Contractor shall provide copies of all worker certifications for handling Hazardous Materials, Working in Confined Spaces, and other certifications required by OSHA, EPA, and local regulatory agencies (not required by other technical sections in the Project Manual).
- H. **Scaffolding:** All scaffolding that is erected on this job will be erected in accordance with the requirements of 29 CFR 1926, Subpart L -- *Scaffolds*. Per OSHA Standards, a scaffold erection plan will be developed by the Contractor, certified by an engineer (licensed in the District of

Columba, Virginia, or Maryland) and provided to the CO prior to set up. Once in place, the Contractor's assigned safety officer shall inspect and document the conditions of the scaffold and scaffold anchor points prior to use, and once per shift thereafter. Any observed failures in the scaffold shall render it unusable until the condition is rectified and re-inspected. Weekly scaffold inspection reports shall be provided to the designated COTR for inclusion in the contract records.

1. **Other Means of Access:** Should the Contractor employ other means of access to the work area, they shall be utilized in accordance with the requirements of 29 CFR 1926, Subpart N -- *Cranes, Derricks, Hoists, Elevators, and Conveyors*. The Contractor shall submit a plan for use of such equipment, fully coordinated with any other plans for site facilities (i.e., scaffolding, staging, etc.).
2. **Scaffolding constructed** by the Contractor for use by AOC employees shall also comply with 29 CFR 1910.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT:

- A. **Special facilities**, devices, equipment, clothing, and similar items used by the Contractor in the execution of work shall comply with all applicable regulations. Such materials and equipment shall be identified in the Plan of Action called for herein.

2.2 MATERIAL SAFETY DATA SHEETS (MSDSs):

- A. **MSDSs** shall be available on-site for all products used under this contract. The prime contractor is responsible for meeting the hazard communication requirements, in accordance with 29 CFR 1910.1200. To the extent feasible, non-flammable and non-toxic products shall be used.

PART 3 - EXECUTION

3.1 CAUTIONARY PROCEDURES AT EXISTING VAULTS:

- A. **General:** Transformer vaults may have floors which are PCB contaminated. These vaults are generally marked by blue signs, which identify the vault as PCB-contaminated; assure all vaults are marked with blue signs prior to proceeding with Work. On rare occasions, vault doors in existing buildings may be equipped with protective alarms and devices. Consult the AOC COTR to ascertain whether vault doors in areas under this contract are so equipped and have proper approved signage systems.

3.2 HAZARDOUS MATERIALS:

- A. **General:** The Contractor shall bring to the COTR's attention, any material suspected of being hazardous which he/she encounters during execution of the work. The COTR shall then determine whether the Contractor shall perform tests to determine the nature or toxicity of the material. If the COTR directs the Contractor to perform tests, and/or if the material is found to be hazardous and additional protective measures are needed, a change to the contract may be required (subject to the "AOC Official Procedure for Making Changes to Contracts"). Persons conducting sampling testing and laboratories processing samples shall be certified.

3.3 CONFINED SPACES:

- A. **Confined Spaces:** It is the responsibility of the AOC to identify and demarcate all known confined spaces within our facilities. It is the Contractor's responsibility to notify and coordinate with the Superintendent's Office when confined space work is to be done, obtain permission from this office to enter the space, conduct all required testing of space prior to entry, and complete an entry permit as required by OSHA regulations and the Confined Space Program previously submitted to the AOC COTR for the project.

3.4 PROTECTION:

- A. **Contractor Responsibility:** The Contractor shall take all necessary precautions to prevent injury to the public, building occupants and visitors, and damage to or contamination of property or the environment. For the purposes of this contract, the public or building occupants shall include all persons not employed by the Contractor or subcontractor thereof.
- B. **Welding, Cutting, and Brazing:** The AOC specifically requires a permit for welding, cutting, and brazing. This AOC "Hot Work Permit" shall be approved each day by the AOC Superintendent's Safety Specialist, or his/her designee, and coordinated through the Superintendent's Office whenever welding, cutting or any open flame work is performed. Work areas shall be kept clear of combustibles within a 35-foot radius of any hot work. Combustibles which cannot be removed shall be covered with flame-resistant blankets. Compressed gas cylinders shall be secured in a vertical position and stored in accordance with Compressed Gas Association (GSA) Guidelines at all times. Valve protection caps shall be in place whenever cylinders are not in use, moved or stored. Appropriate fire extinguishers shall be maintained at welding and cutting operations. A designated fire watch shall sign and return the permit. The fire watch shall be on duty during operations and for a minimum of 30 minutes after completion of welding or cutting operations to ensure no possibility of fire exists.
1. Provide adequate ventilation to protect employees from fume or gas exposure.
 2. During arc welding activities erect screens to shield activities.
- C. **Storage:** It is prohibited to store, position, or use equipment, tools, materials, scraps, and trash in a manner likely to present a hazard to the public or building occupants by its accidental shifting, ignition, or other hazardous qualities. Storing of combustible or flammable liquids shall be in accordance with the current edition of the National Fire Code for Flammable and Combustible Materials (NFPA 30). Compressed gases shall be stored in accordance with Compressed Gas Association (CGA) guidelines.
- D. **Obstructions:** No corridor, aisle, stairway, door, or exit shall be obstructed or used in such a manner as to encroach upon routes of ingress or egress utilized by the public or building occupants, or to present an unsafe or unhealthy condition to the public or building occupants.
- E. **Housekeeping:** Housekeeping practices shall be in conformance with OSHA 29 CFR 1910.22, 29 CFR 1910.141, 29 CFR 1910.1001, 29 CFR 1910.1025, 29 CFR 1926.25, 29 CFR 1926.62, and 29 CFR 1926.1101, for non-construction and construction contracts respectively.
- F. **Protection of the Public and Federal Employees:** Work shall not be performed in any area occupied by the public or Federal employees unless the Contractor takes adequate steps for the protection of the public and Federal employees, and work is specifically permitted by the

contract/COTR/jurisdiction Superintendent. Comply with requirements of ANSI A10.34.2001.

- G. **Electrical Systems:** In addition to complying with the referenced standards in this Section, refer to Division 1 requirements for “Temporary Facilities and Controls.” Provide compliant electrical supply, overload/ground fault protection, lighting, and signage/notification systems. Ensure that arrangements and installations accommodate the Architect’s lockout/tagout procedures.
- H. **Mechanical Systems:** Mechanical systems and equipment, and the components thereof, will be arranged and installed to provide ready accessibility and ease of lock/tag application during lockout/tagout procedures for AOC employees, post construction.
- I. **Fences & Barricades:** The work area shall be fenced, barricaded, or otherwise segregated from the public or building occupants to prevent unauthorized entry into the work area. Fence elements shall be installed in such a manner as to overcome the negative or hazardous effects of wind and weather typical to the region. The use of barbed wire is prohibited unless requested in writing by the Architect.
- J. **Pedestrian Access Ways:** All interior and exterior paths of travel established for pedestrian circulation within and around a construction site shall meet the requirements of 28 CFR Part 36 (*ADAAG*), Appendix A (Standards for Accessible Design), Articles 4.3 through 4.5; when a path is changed to accommodate work, the Contractor shall also provide directional signage in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), 2003. All paths shall be maintained clear and level, without obstruction. Any proposed exceptions to these requirement must be approved in writing by the Architect prior to construction.
 - 1. **Lighting:** All interior/exterior access ways, both permanent and temporary, shall be provided with a uniform minimum lighting level of 3 footcandles (fc) at the walking surface, in accordance with 29 CFR 1926.56(a), Table D-3 - *Minimum Illumination Intensities in Foot-Candles*.
- K. **Alternate Precautions:** When the nature of the work prevents isolation of the work area and the public or building occupants may be in or pass through, under or over the work area, alternate precautions such as the posting of signs, warning lights, the use of signal persons, the erection of barricades or similar controls around particularly hazardous operations shall be approved and used.
- L. **Work Over Thoroughfares:** When work is to be performed over a public thoroughfare such as a sidewalk, lobby, or corridor, the thoroughfare shall be closed, if possible, or other precautions taken such as the installation of screens or barricades. When exposure to falling objects exists, as during the erection of building walls or during demolition, special protection of the type detailed in 29 CFR 1910/1926 shall be provided.
- M. **Temporary Construction Barriers:** Temporary construction barriers, partitions which cover a hole in a rated fire wall, protect occupants from noise or vibration, or separate the construction from public access and exit corridors shall be erected floor-to-ceiling, wall-to-wall, and shall remain in place for the duration of the contract. The minimum construction standards for these temporary barriers shall be metal studs, anchored top and bottom at a maximum spacing of 16 inches (406 mm) on-center, and covered with a minimum of one layer of ½-inch gypsum wallboard.

- N. **Dust and Fume Control Measures:** Work performed adjacent to occupied areas shall be done within dust control barriers (generally constructed of polyethylene sheeting or other barriers as approved by the Architect). To the extent feasible, maintain the work environment at a negative pressure differential with the adjoining occupied areas. The use of fume and odor producing products and materials shall be done in such a manner, or at such a time as to minimize impact on building occupants. Provide measures to minimize migration of dust, fumes, gases, and similar affects into the adjacent areas. Ensure that adequate ventilation is provided to work areas in conformance with OSHA regulations.
- O. **Roof Work:** During the performance of roofing work, employees will be protected as required by the OSHA standards contained in 29 CFR 1926 - subpart M "Fall Protection."
- P. **Removal of Fences and Barricades:** Fences and barricades shall be removed upon completion of the project, in accordance with local ordinance and to the satisfaction of the Contracting Officer or his/her representative(s).
- Q. **Completion of Work:** Do not create or leave hazards unabated (e.g., open or absent electrical panels, unmarked circuit breakers/fuses, faceplates missing from receptacles, open maholes, un-barricaded trenches/excavations, etc.).

END OF SECTION 01546

SECTION 01700 - EXECUTION REQUIREMENTS**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. **Drawings** and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. **This Section** includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. General installation of products.
4. Coordination of Government-installed products.
5. Progress cleaning.
6. Starting and adjusting.
7. Protection of installed construction.
8. Correction of the Work.

- B. **Related Sections** include the following:

1. Division 1 Section "PROJECT MANAGEMENT AND COORDINATION" for procedures for coordinating field engineering with other construction activities.
2. Division 1 Section "CUTTING AND PATCHING" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
3. Division 1 Section "CLOSEOUT PROCEDURES" for submitting final property survey with Project Record Documents, recording of Government-accepted deviations from indicated lines and levels, and final cleaning.

1.3 SUBMITTALS

- A. **Landfill Receipts:** Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

PART 2 - PRODUCTS (Not Used)**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. **Existing Conditions:** The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
 - 1. Before construction, verify the location and points of connection of utility services.
- B. **Existing Utilities:** The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
- C. **Acceptance of Conditions:** Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. **Written Report:** Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - a. Description of the Work.
 - b. List of detrimental conditions, including substrates.
 - c. List of unacceptable installation tolerances.
 - d. Recommended corrections.
 - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. **Existing Utility Information:** Furnish information to Architect that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with the Architect and the utility that owns the affected appurtenance.
- B. **Existing Utility Interruptions:** Do not interrupt utilities serving facilities occupied by Government or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect's written permission.

- C. **Field Measurements:** Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- D. **Space Requirements:** Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- E. **Review of Contract Documents and Field Conditions:** Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 CONSTRUCTION LAYOUT

- A. **Verification:** Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. **General:** Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions. Inform installers of lines and levels to which they must comply. Check the location, level and plumb, of every major element as the Work progresses. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
- C. **Record Log:** Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

- A. **Identification:** The Architect will identify existing benchmarks, control points, and property corners.
- B. **Reference Points:** Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.

2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

3.5 INSTALLATION

- A. **General:** Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 1. Make vertical work plumb and make horizontal work level.
 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
 4. Maintain minimum headroom clearance of 8 feet (2.4 m) in spaces without a suspended ceiling.
- B. **Comply** with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. **Install products** at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Final Acceptance.
- D. **Conduct construction operations** so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. **Tools and Equipment:** Do not use tools or equipment that produce harmful noise levels.
- F. **Anchors and Fasteners:** Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect. Mount equipment required to be accessible in conformance with ADA requirements.
 2. Allow for building movement, including thermal expansion and contraction.
- G. **Joints:** Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- H. **Hazardous Materials:** Use products, cleaners, and installation materials that are not considered hazardous.

3.6 GOVERNMENT-INSTALLED PRODUCTS

- A. **Site Access:** Provide access to Project site for Government's construction forces.
- B. **Coordination:** Coordinate construction and operations of the Work with work performed by Government's construction forces.

1. **Preinstallation Conferences:** Include Architect's construction forces at preinstallation conferences covering portions of the Work that are to receive Government's work. Attend preinstallation conferences conducted by Architect's construction forces if portions of the Work depend on Government's construction.

3.7 PROGRESS CLEANING

- A. **General:** Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 1. **Comply** with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. **Do not hold materials** more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
 3. **Containerize** hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. **Site:** Maintain Project site free of waste materials and debris.
- C. **Work Areas:** Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. **Installed Work:** Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. **Concealed Spaces:** Remove debris from concealed spaces before enclosing the space.
- F. **Exposed Surfaces:** Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Final Acceptance.
- G. **Cutting and Patching:** Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
 1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- H. **Waste Disposal:** Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

- I. **During handling and installation**, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Final Acceptance.
- J. **Clean and provide maintenance** on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- K. **Limiting Exposures:** Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. **Start equipment** and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. **Adjust operating components** for proper operation without binding. Adjust equipment for proper operation.
- C. **Test each piece of equipment** to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.9 PROTECTION OF INSTALLED CONSTRUCTION

- A. **Provide final protection** and maintain conditions that ensure installed Work is without damage or deterioration at time of Final Acceptance.
- B. **Comply** with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF THE WORK

- A. **Repair or remove** and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "CUTTING AND PATCHING."
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. **Restore permanent** facilities used during construction to their specified condition.
- C. **Remove and replace** damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. **Repair components** that do not operate properly. Remove and replace operating components that cannot be repaired.

- E. **Remove and replace chipped**, scratched, and broken glass or reflective surfaces.

END OF SECTION 01700

SECTION 01731 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes procedural requirements for minor cutting and patching of plaster ceilings for installation of access doors.
- B. Related Sections include the following:
 - 1. Division 16 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
 - 2. Division 7 Section "Through-Penetration Firestop Systems" for patching fire-rated construction.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.5 QUALITY ASSURANCE

- A. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operating elements include the following:
 - 1. Primary operational systems and equipment.
 - 2. Air or smoke barriers.
 - 3. Fire-suppression systems.
 - 4. Mechanical systems piping and ducts.
 - 5. Control systems.
 - 6. Communication systems.
 - 7. Electrical wiring systems.
- B. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

- C. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- D. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical or similar to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide temporary partitions as specified in Section 01000, "General Requirements".
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, using methods least likely to damage elements retained or adjoining construction.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Plaster and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. No less than one day before patching, contact the Architect to have the work photographed by the Architect's Photography Department.
 - 5. Proceed with patching after construction operations requiring cutting, and photography, are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Restore damaged pipe covering to its original condition.
 - 3. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 01731

SECTION 01770 - PROJECT CLOSEOUT**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. **This Section** specifies administrative and procedural requirements for project closeout, including but not limited to:
1. Inspection procedures.
 2. Project record document submittal.
 3. Operating and maintenance manual submittal.
 4. Submittal of warranties
 5. Final cleaning.
- B. **Closeout requirements** for specific construction activities are included in the appropriate Sections in Divisions-2 through -16.
- C. **Substantial Completion** is defined as that state when the Contractor has complied with the Contract requirements, except for minor deviations, and the project is sufficiently complete and capable of being occupied and used by the Government for the intended purpose.

1.3 SUBSTANTIAL COMPLETION

- A. **Preliminary Procedures:** Before requesting inspection for Substantial Completion, complete the following:
1. **Documentation:** Provide supporting documentation for completion as indicated elsewhere in the Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 2. **Punch List:** Submit a list to the Architect, of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
 3. **Releases:** Obtain and submit releases enabling the Government unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 4. **Manuals:** Submit operation and maintenance manuals, final project photographs, damage or settlement survey, and utility lines survey.
 5. **Security:** Make final changeover of permanent locks and transmit keys to the Architect. Advise the Architect of changeover in security provisions.
 6. **Startups:** Complete startup testing of systems and instructions of the Government operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.

- B. **Inspection Procedures:** On receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will notify the Contractor of Substantial Completion following the inspection or advise the Contractor of construction that must be completed or corrected before Substantial Completion.
1. The Architect will repeat the inspection when requested and when assured that the Work is substantially complete.
 2. Results of the completed inspection will form the basis of the requirements for Final Acceptance.

1.4 FINAL ACCEPTANCE

- A. **Preliminary Procedures:** Before requesting reinspection for Final Acceptance, complete the following.
1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 3. Submit a certified copy of the previous Substantial Completion inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Contractor.
 4. Submit consent of surety to final payment.
 5. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
 6. Submit record documents and similar final record information.
 7. Deliver tools, spare parts, extra stock and similar items.
 8. Complete final clean-up requirements including touch-up painting of marred surfaces.
 9. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date when the Government took possession of and assumed responsibility for corresponding elements of work.
- B. **Reinspection Procedure:** The Architect will reinspect the Work upon receipt of notice from the Contractor that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Architect.
1. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for Final Acceptance.
 2. If necessary, reinspection will be repeated.

1.5 RECORD DOCUMENT SUBMITTALS

- A. **General:** Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's reference during normal working hours.
- B. **Record Drawings:** Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark the drawing that is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
 2. Mark new information not shown on Contract Drawings or Shop Drawings.
 3. Note related Change Order numbers where applicable.
 4. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets. Print suitable titles, dates, and other identification on the cover of each set.
- C. **Record Specifications:** Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders, supplementary instructions, and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.
1. Upon completion of the Work, submit record Specifications to the Architect.
- D. **Record Product Data:** Maintain one copy of each Product Data submittal. Mark these documents to show approved variations in actual Work performed in comparison with information submitted. Include approved variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned later by direct observation. Note related Change Orders and mark-up of record drawings and Specifications.
1. Upon completion of mark-up, submit complete set of record Product Data to the Architect.
- E. **Record Sample Submitted:** Immediately prior Substantial Completion, the Contractor will meet with the Architect at the Project site to determine which of the submitted Samples that have been maintained during progress of the Work are to be transmitted to the Architect for

record purposes and which are to be returned to the Contractor. Comply with the Architects' instructions regarding delivery to the Government's Sample storage area.

- F. **Miscellaneous Record Submittals:** Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Final Acceptance, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Architect.
- G. **Maintenance and Operating Manuals:** Organize maintenance and operating data into suitable sets of manageable size. Bind properly indexed data in individual heavy-duty 2-inch, 3-ring vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Include the following types of information:
1. Emergency instruction.
 2. Spare parts list.
 3. Wiring diagrams.
 4. Recommended "turn around" cycles.
 5. Inspection procedures.
 6. Shop Drawings and Product Data.
 7. Fixture lamping schedule.
- H. **Warranties:** At Final Completion compile two copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. **Operating and Maintenance Instruction:** Arrange for each installer of equipment that requires regular maintenance to meet with the Architect's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items.
1. Maintenance manuals.
 2. Record documents.
 3. Spare parts and materials.
 4. Tools.
 5. Lubricants.
 6. Fuels.
 7. Identification systems.

8. Control sequences.
 9. Hazards.
 10. Cleaning.
 11. Warranties and bonds.
 12. Maintenance agreements and similar continuing commitments.
- B. **Demonstrations:** As part of instruction for operating equipment, demonstrate the following procedures:
1. Start-up.
 2. Shutdown.
 3. Emergency operations.
 4. Noise and vibration adjustments.
 5. Safety procedures.
 6. Economy and efficiency adjustments.
 7. Effective energy utilization.

3.2 FINAL CLEANING

- A. **General:** General cleaning during construction is required by the General Conditions and included in Section 01500, "TEMPORARY CONTROLS."
- B. **Cleaning:** Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
1. Complete the following cleaning operations before requesting inspection for Final Acceptance:
 - a. Remove labels that are not permanent labels.
 - b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
 - c. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.
 - d. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
 - e. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

- C. **Pest Control:** Engage an experienced exterminator to make a final inspection, and rid the Project of rodents, insects and other pests.
- D. **Removal of Protection:** Remove temporary protection and facilities installed for protection of the Work during construction.
- E. **Compliance:** Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Government's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.
- F. **Remaining Materials:** Extra materials of value, that remain after completion of associated work, become Government property. Dispose of these materials as directed by the Architect.

END OF SECTION 01770

SECTION 07841 - THROUGH-PENETRATION FIRESTOP SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes through-penetration firestop systems for penetrations through fire-resistance-rated constructions, for openings containing penetrating items.
- B. Related Sections include the following:
 - 1. Division 16 Sections specifying cable and conduit penetrations.

1.3 PERFORMANCE REQUIREMENTS

- A. General: For penetrations through fire-resistance-rated constructions, provide through-penetration firestop systems that are produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated.
- B. Rated Systems: Provide through-penetration firestop systems with the following ratings determined per ASTM E 814 or UL 1479:
 - 1. F-Rated Systems: Provide through-penetration firestop systems with F-ratings indicated, but not less than that equaling or exceeding fire-resistance rating of constructions penetrated.
- C. For through-penetration firestop systems exposed to traffic, moisture, and physical damage, provide products that, after curing, do not deteriorate when exposed to these conditions both during and after construction.
 - 1. For conduit penetrations in air plenums, provide moisture-resistant through-penetration firestop systems.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For each through-penetration firestop system, show each type of construction condition penetrated, relationships to adjoining construction, and type of penetrating item. Include firestop design designation of qualified testing and inspecting agency that evidences compliance with requirements for each condition indicated.

1. Submit documentation, including illustrations, from a qualified testing and inspecting agency that is applicable to each through-penetration firestop system configuration for construction and penetrating items.
- C. Through-Penetration Firestop System Schedule: Indicate locations of each through-penetration firestop system, along with the following information:
 1. Types of penetrating items.
 2. Types of constructions penetrated, including fire-resistance ratings and, where applicable, thicknesses of construction penetrated.
 3. Through-penetration firestop systems for each location identified by firestop design designation of qualified testing and inspecting agency.
- D. Qualification Data: For Installer.
- E. Product Certificates: For through-penetration firestop system products, signed by product manufacturer.
- F. Product Test Reports: From a qualified testing agency indicating through-penetration firestop system complies with requirements, based on comprehensive testing of current products.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A firm experienced in installing through-penetration firestop systems similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful performance. Qualifications include having the necessary experience, staff, and training to install manufacturer's products per specified requirements. Manufacturer's willingness to sell its through-penetration firestop system products to Contractor or to Installer engaged by Contractor does not in itself confer qualification on buyer.
- B. Installation Responsibility: Assign installation of through-penetration firestop systems in Project to a single qualified installer.
- C. Source Limitations: Obtain through-penetration firestop systems, for each kind of penetration and construction condition indicated, through one source from a single manufacturer.
- D. Fire-Test-Response Characteristics: Provide through-penetration firestop systems that comply with the following requirements and those specified in Part 1 "Performance Requirements" Article:
 1. Firestopping tests are performed by a qualified testing and inspecting agency. A qualified testing and inspecting agency is UL, or another agency performing testing and follow-up inspection services for firestop systems acceptable to authorities having jurisdiction.

2. Through-penetration firestop systems are identical to those tested per testing standard referenced in "Part 1 Performance Requirements" Article. Provide rated systems complying with the following requirements:
 - a. Through-penetration firestop system products bear classification marking of qualified testing and inspecting agency.
 - b. Through-penetration firestop systems correspond to those indicated by reference to through-penetration firestop system designations listed by the following:
 - 1) UL in its "Fire Resistance Directory."

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver through-penetration firestop system products to Project site in original, unopened containers or packages with intact and legible manufacturers' labels identifying product and manufacturer, date of manufacture, lot number, shelf life if applicable, qualified testing and inspecting agency's classification marking applicable to Project, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials for through-penetration firestop systems to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install through-penetration firestop systems when ambient or substrate temperatures are outside limits permitted by through-penetration firestop system manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.
- B. Ventilate through-penetration firestop systems per manufacturer's written instructions by natural means or, where this is inadequate, forced-air circulation.

1.8 COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that through-penetration firestop systems are installed according to specified requirements.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate through-penetration firestop systems.
- C. Notify the Architect at least seven days in advance of through-penetration firestop system installations; confirm dates and times on days preceding each series of installations.
- D. Do not cover up through-penetration firestop system installations that will become concealed behind other construction until each installation has been examined by the Architect, if required by authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, through-penetration firestop systems that may be incorporated into the Work include, but are not limited to, those systems indicated in the Through-Penetration Firestop System Schedule at the end of Part 3.

2.2 FIRESTOPPING, GENERAL

- A. Compatibility: Provide through-penetration firestop systems that are compatible with one another; with the substrates forming openings; and with the items, if any, penetrating through-penetration firestop systems, under conditions of service and application, as demonstrated by through-penetration firestop system manufacturer based on testing and field experience.
- B. Accessories: Provide components for each through-penetration firestop system that are needed to install fill materials and. Use only components specified by through-penetration firestop system manufacturer and approved by qualified testing and inspecting agency for firestop systems indicated.

2.3 MIXING

- A. For those products requiring mixing before application, comply with through-penetration firestop system manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

PART3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of work.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning: Clean out openings immediately before installing through-penetration firestop systems to comply with firestop system manufacturer's written instructions and with the following requirements:
 - 1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of through-penetration firestop systems.

2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with through-penetration firestop systems. Remove loose particles remaining from cleaning operation.
 3. Remove laitance and form-release agents from concrete.
- B. Priming: Prime substrates where recommended in writing by through-penetration firestop system manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

3.3 THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLATION

- A. General: Install through-penetration firestop systems to comply with Part 1 "Performance Requirements" Article and with firestop system manufacturer's written installation instructions and published drawings for products and applications indicated.
- B. Install forming/damming/backing materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of firestop systems.
- C. Install fill materials for firestop systems by proven techniques to produce the following results:
1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items as required to achieve fire-resistance ratings indicated.
 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
 3. For fill materials that will remain exposed after completing Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 CLEANING AND PROTECTING

- A. Clean off excess fill materials adjacent to openings as Work progresses by methods and with cleaning materials that are approved in writing by through-penetration firestop system manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that through-penetration firestop systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated through-penetration firestop systems immediately and install new materials to produce systems complying with specified requirements.

3.5 THROUGH-PENETRATION FIRESTOP SYSTEM SCHEDULE

- A. Where UL-classified systems are indicated, they refer to alpha-alpha-numeric designations listed in UL's "Fire Resistance Directory" under product Category XHEZ.
- B. Firestop Systems for Metallic Pipes, Conduit, or Tubing:
 - 1. UL-Classified Systems: C-BK-1001-1999.
- C. Firestop Systems for Electrical Cables:
 - 1. UL-Classified Systems: C-BK-3001-3999.

END OF SECTION 07841

SECTION 08311 - ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawing and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Ceiling access doors and frames.

1.3 SUBMITTALS

- A. Product Data: For each type of door and frame indicated. Include construction details relative to materials, individual components and profiles, finishes, and fire ratings (if required) for access doors and frames.
- B. Shop Drawings: Show fabrication and installation details of customized doors and frames. Include plans, elevations, sections, details, and attachments to other Work.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain doors and frames through one source from a single manufacturer.
- B. Size Variations: Obtain Architect's acceptance of manufacturer's standard-size units, which may vary slightly from sizes indicated.

1.5 COORDINATION

- A. Verification: Determine specific locations and sizes for access doors needed to gain access to concealed equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Electrolytic Zinc-Coated Steel Sheet: ASTM A 591/A 591M, Commercial Steel (CS), with Class C coating and phosphate treatment to prepare surface for painting; with minimum thickness indicated representing specified nominal thickness according to ASTM A 568/A 568M for uncoated base metal.

- C. Stainless-Steel Bars and Shapes: ASTM A 276, Type 304.
- D. Plaster Bead: Casing bead formed from 0.0299-inch/0.76-mm zinc-coated steel sheet with flange formed out of expanded metal lath and in size to suit thickness of plaster.

2.2 PAINT

- A. Shop Primer for Ferrous Metal: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with performance requirements in FS TT-P-664; selected for good resistance to normal atmospheric corrosion, compatibility with finish paint systems indicated, and capability to provide a sound foundation for field-applied topcoats despite prolonged exposure.
- B. Field-applied top coat will be applied as specified in Division 9 Section "Painting".

2.3 ACCESS DOORS AND FRAMES

- A. Flush Access Doors and Trimless Frames: Fabricated from steel sheet.
 - 1. Locations: Gypsum board, concealed-spline suspended tile, or plaster ceiling surfaces as indicated.
 - 2. Door: Minimum 0.060-inch- (1.5-mm-) thick sheet metal, set flush with surrounding finish surfaces.
 - 3. Frame: Minimum 0.060-inch- (1.5-mm-) thick sheet metal with drywall bead or plaster bead.
 - 4. Hinges: Continuous piano hinge.
 - 5. Latch: Screwdriver-operated cam latch.

2.4 FABRICATION

- A. General: Provide access door assemblies manufactured as integral units ready for installation.
- B. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.
- C. Steel Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access panels to types of supports indicated.
 - 1. For trimless frames with drywall bead for installation in gypsum board assembly, provide edge trim for gypsum board securely attached to perimeter of frames.
 - 2. For trimless frames with plaster bead for full-bed plaster applications, provide zinc-coated expanded metal lath and exposed casing bead welded to perimeter of frames.
 - 3. Provide mounting holes in frames to attach frames to metal or wood framing in plaster and drywall construction.

- D. Latching Mechanisms: Furnish number required to hold doors in flush, smooth plane when closed.

2.5 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Finish metal fabrications after assembly.

2.6 STEEL FINISHES

- A. Surface Preparation: Prepare uncoated ferrous-metal surfaces to comply with minimum requirements indicated below for SSPC surface-preparation specifications and environmental exposure conditions of installed metal fabrications:
 - 1. Interiors (SSPC Zone 1A): SSPC-SP 3, "Power Tool Cleaning."
- B. Apply shop primer to uncoated surfaces of metal fabrications. Comply with SSPC-PA 1, "Paint Application Specification No. 1," for shop painting.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with manufacturer's written instructions for installing access doors and frames
- B. Set frames accurately in position and attach securely to supports with plane of face panels aligned with adjacent finish surfaces.
- C. Install access doors with trimless frames flush with adjacent finish surfaces or recessed to receive finish material.

3.2 ADJUSTING AND CLEANING

- A. Adjust doors and hardware after installation for proper operation.
- B. Remove and replace doors and frames that are warped, bowed, or otherwise damaged.

END OF SECTION 08311

SECTION 09911 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes surface preparation and field painting of exposed interior items and surfaces with consumer line paint products.
 - 1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
- B. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
 - 1. Prefinished items include the following factory-finished components:
 - a. Architectural woodwork.
 - b. Acoustical wall panels.
 - c. Metal toilet enclosures.
 - d. Elevator entrance doors and frames.
 - e. Elevator equipment.
 - f. Finished mechanical and electrical equipment.
 - g. Light fixtures.
 - 2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
 - a. Furred areas.
 - b. Ceiling plenums.
 - c. Utility tunnels.
 - d. Pipe spaces.
 - e. Duct shafts.
 - f. Elevator shafts.
 - 3. Finished metal surfaces include the following:

- a. Anodized aluminum.
 - b. Stainless steel.
 - c. Chromium plate.
 - d. Copper and copper alloys.
 - e. Bronze and brass.
4. Operating parts include moving parts of operating equipment and the following:
 - a. Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.
 - d. Motor and fan shafts.
5. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.3 DEFINITIONS

- A. General: Standard coating terms defined in ASTM D 16 apply to this Section.
 1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
 2. Semigloss refers to medium-sheen finish with a gloss range between 35 and 70 when measured at a 60-degree meter.

1.4 SUBMITTALS

- A. Product Data: For each paint system indicated. Include primers.
 1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.
- B. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.
 1. Provide stepped Samples, defining each separate coat, including primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
 2. Provide a list of materials and applications for each coat of each Sample. Label each Sample for location and application.
- C. Qualification Data: For Applicator.

1.5 QUALITY ASSURANCE

- A. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Source Limitations: Obtain primers for each coating system from the same manufacturer as the finish coats.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
 - 1. Product name or title of material.
 - 2. Product description (generic classification or binder type).
 - 3. Manufacturer's stock number and date of manufacture.
 - 4. Contents by volume, for pigment and vehicle constituents.
 - 5. Thinning instructions.
 - 6. Application instructions.
 - 7. Color name and number.
 - 8. VOC content.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain storage containers in a clean condition, free of foreign materials and residue.
 - 1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

1.7 PROJECT CONDITIONS

- A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F (10 and 32 deg C).
- B. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F (7 and 35 deg C).
- C. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
 - 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.
- B. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - 1. Benjamin Moore & Co. (Benjamin Moore).
 - 2. Coronado Paint Company (Coronado).
 - 3. ICI Dulux Paint Centers (ICI Dulux Paints).
 - 4. M. A. Bruder & Sons, Inc. (M. A. B. Paint).
 - 5. PPG Industries, Inc. (Pittsburgh Paints).
 - 6. Sherwin-Williams Co. (Sherwin-Williams).
- C. Where existing coatings will remain as an undercoat, ensure that paint will be chemically compatible.
- D. Equal products shall be approved by the Architect before use.

2.2 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide primers and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.
- C. Colors: Match existing adjacent surfaces.

2.3 INTERIOR PRIMERS

- A. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior application.
 - 1. Benjamin Moore; Regal FirstCoat Interior Latex Primer & Underbody No. 216: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
 - 2. Coronado; 40-11 Super Kote 5000 Latex Primer-Sealer: Applied at a dry film thickness of not less than 1.1 mils (0.028 mm).

3. ICI Dulux Paints; 1000-1200 Dulux Ultra Basecoat Interior Latex Wall Primer: Applied at a dry film thickness of not less than 1.2 mils (0.031 mm).
4. M. A. B. Paint; Rich Lux Prime Fast 037-138: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
5. Pittsburgh Paints; 6-2 SpeedHide Interior Quick-Drying Latex Sealer: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
6. Sherwin-Williams; PrepRite Masonry Primer B28W300 Series: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
7. Approved equal.

B. Interior Plaster Primer: Factory-formulated latex-based primer for interior application.

1. Benjamin Moore; Regal FirstCoat Interior Latex Primer & Underbody No. 216: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
2. Coronado; 40-11 Super Kote 5000 Latex Primer-Sealer: Applied at a dry film thickness of not less than 1.1 mils (0.028 mm).
3. ICI Dulux Paints; 1000-1200 Dulux Ultra Basecoat Interior Latex Wall Primer: Applied at a dry film thickness of not less than 1.2 mils (0.031 mm).
4. M. A. B. Paint; Rich Lux Prime Fast 037-138: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
5. Pittsburgh Paints; 6-2 SpeedHide Interior Quick-Drying Latex Sealer: Applied at a dry film thickness of not less than 1.0 mil (0.025 mm).
6. Sherwin-Williams; PrepRite Masonry Primer B28W300 Series: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
7. Approved equal.

2.4 INTERIOR FINISH COATS

A. Interior Flat Acrylic Paint: Factory-formulated flat acrylic-emulsion latex paint for interior application.

1. Benjamin Moore; Regal Wall Satin No. 215 Premium Interior Finishes Flat Finish: Applied at a dry film thickness of not less than 1.3 mils (0.033 mm).
2. Coronado; 26 Line Gold Acrylic Latex Flat Wall Paint: Applied at a dry film thickness of not less than 1.1 mils (0.028 mm).
3. ICI Dulux Paints; 1201-XXXX Dulux Ultra Velvet Sheen Interior Flat Latex Wall & Trim Finish: Applied at a dry film thickness of not less than 1.7 mils (0.043 mm).
4. M. A. B. Paint; Rich Lux Wal-Shield Latex Flat 041 Line: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
5. Pittsburgh Paints; 80-Line Wallhide Interior Wall Flat Latex Paint: Applied at a dry film thickness of not less than 1.2 mils (0.031 mm).
6. Sherwin-Williams; SuperPaint Interior Latex Flat Wall Paint, A86 Series: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
7. Approved equal.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.
 - 1. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
 - 2. Start of painting will be construed as Applicator's acceptance of surfaces and conditions within a particular area.

3.2 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
 - 1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
- D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.
 - 1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 - 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
 - 3. Use only thinners approved by paint manufacturer and only within recommended limits.
- E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.
 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 3. Provide finish coats that are compatible with primers used.
 4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
 5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
 7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 8. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
 9. Sand lightly between each succeeding enamel coat.
- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 3. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.
 2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
 3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.

- E. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.
- F. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- G. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.5 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
 - 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
 - 1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.7 INTERIOR PAINT SCHEDULE

- A. Gypsum Board: Provide the following finish systems over interior gypsum board surfaces:
 - 1. Flat Acrylic Finish: Two finish coats over a primer.
 - a. Primer: Interior gypsum board primer.
 - b. Finish Coats: Interior flat acrylic paint.
- B. Plaster: Provide the following finish systems over new interior plaster surfaces:
 - 1. Flat Acrylic Finish: Two finish coats over a primer.

- a. Primer: Interior plaster primer.
 - b. Finish Coats: Interior flat acrylic paint.
- C. Painting existing painted surfaces: Interior flat acrylic paint, number of coats required to cover.

END OF SECTION 09911

SECTION 13082 - LEAD ABATEMENT**PART 1 - GENERAL****1.1 DESCRIPTION**

- A. This section specifies abatement and disposal of lead containing products and controls needed to limit occupational and environmental exposure to lead hazards.

1.3 APPLICABLE PUBLICATIONS

- A. **The publications** listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

B. **CODE OF FEDERAL REGULATIONS (CFR):**

CFR 29 Part 1910	Occupational Safety and Health Standards
CFR 29 Part 1926	Safety and Health Regulations for Construction
CFR 40 Part 148	Hazardous Waste Injection Restrictions
CFR 40 Part 260	Hazardous Waste Management System: General
CFR 40 Part 261	Identification and Listing of Hazardous Waste
CFR 40 Part 262	Standards Applicable to Generators of Hazardous Waste
CFR 40 Part 263	Standards Applicable to Transporters of Hazardous Waste
CFR 40 Part 264	Standards for Owners and Operations of Hazardous Waste Treatment, Storage, and Disposal Facilities
CFR 40 Part 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
CFR 40 Part 268	Land Disposal Restrictions
CFR 49 Part 172	Hazardous Material Table, Special Provisions, Hazardous Material Communications, Emergency Response Information, and Training Requirements
CFR 49 Part 178	Specifications for Packaging

C. **National Fire Protection Association (NFPA):**

NFPA 701-1989	Methods of Fire Test for Flame-Resistant Textiles and Films
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D. **National Institute For Occupational Safety And Health (NIOSH)**

NIOSH OSHA Booklet 3142 Lead in Construction

E. **Underwriters Laboratories(UL):**

UL 586-1990 High-Efficiency, Particulate, Air Filter Units

F. **American National Standards Institute:**

Z9.2-1979(R1991) Fundamentals Governing the Design and Operation of Local Exhaust Systems.

G. **HUD's Guidelines For the Evaluation and Control of Lead - Based Paint Hazards in Housing**

1.4 DEFINITIONS

A. **Action Level:** Employee exposure, without regard to use of respirations, to an airborne concentration of lead of 30 micrograms per cubic meter of air averaged over an 8-hour period. As used in this section, 30 micrograms per cubic meter of air" refers to the action level.

B. **Area Monitoring:** Sampling of lead concentrations which is representative of the airborne lead concentrations which may reach the breathing zone of personnel potentially exposed to lead.

C. **Physical Boundary:** Area physically roped or partitioned off around an enclosed lead control area to limit unauthorized entry of personnel. As used in this section, "inside boundary" shall mean the same as "outside lead control area."

D. **Certified Industrial Hygienist (CIH):** As used in this section, refers to an Industrial Hygienist employed by the contractor and is certified by the American Board of Industrial Hygiene in comprehensive practice.

E. **Change Rooms and Shower Facilities:** Rooms within the designated physical boundary around the lead control area equipped with separate storage facilities for clean protective work clothing and equipment and for street clothes which prevent cross- contamination.

F. **Competent Person:** A person capable of identifying lead hazards in the work area and is authorized by the contractor to take corrective action.

G. **Decontamination Room:** Room for removal of contaminated personal protective equipment (PPE).

H. **Eight-Hour Time Weighted Average (TWA):** Airborne concentration of lead averaged over an 8-hour workday to which an employee is exposed.

I. **High Efficiency Particulate Air (HEPA) Filter Equipment:** HEPA filtered vacuuming equipment with a UL 586 filter system capable of collecting and retaining lead-contaminated paint dust. A high efficiency particulate filter means 99.97 percent efficient against 0.3 micron size particles.

J. **Lead:** Metallic lead, inorganic lead compounds, and organic lead soaps. Excluded from this definition are other organic lead compounds.

- K. **Lead Control Area:** An enclosed area or structure with full negative pressure containment to prevent the spread of lead dust, paint chips, or debris of lead-containing material removal operations. The lead control area is isolated by physical boundaries to prevent unauthorized entry of personnel.
- L. **Lead Permissible Exposure Limit (PEL):** Fifty micrograms per cubic meter of air as an 8-hour time weighted average as determined by 29 CFR 1926.62. If an employee is exposed for more than 8 hours in a work day, the PEL shall be determined by the following formula. $PEL (\text{micrograms/cubic meter of air}) = 400/\text{No. of hrs worked per day}$
- M. **Personnel Monitoring:** Sampling of lead concentrations within the breathing zone of an employee to determine the 8-hour time weighted average concentration in accordance with 29 CFR 1926.62. Samples shall be representative of the employee's work tasks. Breathing zone shall be considered an area within a hemisphere, forward of the shoulders, with a radius of 150 mm to 225 mm (6 to 9 inches) and the center at the nose or mouth of an employee.
- N. **Architect:** The Architect of the Capitol.

1.5 QUALITY ASSURANCE

- A. **Before exposure** to lead-contaminated dust, show evidence that workers have completed the comprehensive medical examination as required by 29 CFR 1926.62 (I) (1) (i) & (ii). The examination shall not be required if adequate records show that employees have been examined as required by 29 CFR 1926.62(i) within the last year.
- B. **Medical Records:** Maintain complete and accurate medical records of employees in accordance with 29 CFR 1910.20.
- C. **The Contractor** shall engage the services of an Certified Industrial Hygienist (CIH) certified by the American Board of Industrial Hygiene (ABIH). Selection of the CIH is subject to approval of the Architect. The CIH will be responsible for, but not limited to the following:
1. **Certify** Training.
 2. **Review, approve and submit** to the Architect's representative, all lead-containing material removal plan for conformance to the applicable referenced standards.
 3. **Inspect and or oversee** the inspection of, all lead-containing material removal work for conformance with the approved plan.
 4. **Develop** a monitoring plan and/or perform the monitoring. This is to include samples to test airborne levels of lead to determine exposure.
 5. **Ensure work** is performed in strict accordance with specifications at all times.
 6. **Ensure hazardous exposure** to personnel and to the environment are adequately controlled at all times.
 7. **Visually inspect** all lead control areas for cleanliness and perform floor dust wipe testing.
 8. **Review and approve** and submit to the Architect's representative, all sampling data within the time frames outlined in this specification.
 9. **Review, approve and submit** to the Architect, the Contractor's lead compliance program in accordance with 29 CFR 1926.62(e)(2).

- a. The CIH may delegate the performance of his work, (except for the reviews and approval of plans, programs and sampling strategies), to Industrial Hygienist (IH) he selects, who are qualified by virtue of their training and work experiences to perform tasks. The CIH shall supervise the IH or all of the IH (s) and will be responsible for and review all results of their work. The selection of the CIH and the IH (s), is subject to approval of the Architect.
- D. **Training:** Train each employee performing lead paint removal, lead containing material removal, disposal, and air sampling operations prior to the time of initial job assignment, in accordance with 29 CFR 1926.62.
- E. **Training Certification:** The CIH shall certify all contractor employee Lead Training Certificates. These documents shall be submitted to the Architect as directed by section 1.6.D.6.c of this specification.
- F. **Respiratory Protection Program:**
 - 1. Furnish each employee required to wear a negative pressure respirator or other appropriate type with a respirator fit test at the time of initial fitting and at intervals that are required by 29 CFR 1910.134.
 - 2. The contractor shall establish and implement a respiratory protection program that has been approved and certified by the project CIH as required by 29 CFR 1910.134, 29 CFR 1910.1025, and 29 CFR 1926.62.
- G. **Hazard Communication Program:** The contractor shall establish and implement a Hazard Communication program that has been approved and certified by the project CIH as required by 29 CFR 1910.1200. Once approved by the Architect and before any work starts, the contractor shall implement this plan.
- I. **Safety and Health Compliance:**
 - 1. **In addition** to the detailed requirements of this specification, comply with laws, ordinances, rules, and regulations of federal, state, and local authorities regarding removing, handling, storing, transporting, licensing and disposing of lead waste materials. Comply with the applicable requirements of the current issue of 29 CFR 1926.62 and this specification. Submit matters regarding interpretation of standards to the Architect for resolution before starting work.
 - 2. **Where specification** requirements and the referenced documents vary, the most stringent requirements shall apply.
- J. **Pre-Construction Conference:** Ten (10) days before beginning any lead containing material removal, the CIH and removal contractor shall meet with the Architect's Occupational Health, Environmental, and Safety Office representative to discuss in detail the lead-containing paint and or material removal work plan. The topic of the Pre-Construction Conference shall include work procedures and precautions for the work plan.

- K. **Supervision:** The competent person assigned to this operation by the contractor, shall be required to be onsite and supervising any and all work being performed inside the Lead Control area.

1.6 SUBMITTAL

- A. **General:** No work involving the removal of lead containing materials shall begin until all submittal required by this specification are approved by the Architect.

B. **Hazardous Waste Management:**

1. **Submit a Hazardous Waste Management Plan** within 14 days after award of contract to the Architect for approval. The Hazardous Waste Management plan shall comply with applicable requirements of Federal, State, and local hazardous waste regulations and address:
 - a. Procedures to segregate abatement wastes into separate waste streams to minimize the quantity of hazards waste generated.
 - b. Testing to identify hazardous wastes associated with the work.
 - c. Estimated quantities of wastes to be generated and disposed of.
 - d. Transporter / disposal facility documentation including, name, location, EPA identification number, hazardous waste permits and a 24 hour point of contact.
 - e. Names and qualifications (experience and training) of personnel who will be working on-site with hazardous wastes.
 - f. List of waste handling equipment to be used in performing the work, to include cleaning, volume reduction, and transport equipment.
 - g. Spill prevention, containment, and cleanup contingency measures to be implemented.
 - h. Procedures and schedule for waste containment, removal and disposal. Wastes shall be cleaned up and containerized daily.
2. **Obtain Architect's generator EPA** identification number from the Architect. Contact the Architect's Safety and Occupational Health Branch's representative for this information.

B. **Manufacturer's Catalog Data:**

1. HEPA Vacuums
2. Respirators
3. HEPA filtered negative air machines.
4. LBP Removal Chemicals.
5. All other tools or equipment that the contractor plans on using to remove Lead - Containing materials.

- C. **Instructions:** Paint removal materials. Include applicable material safety data sheets.

D. **Statements Certifications and Statements:**

1. **Qualifications of CIH:** Submit to the Architect for approval the name, address, and telephone number of the CIH selected to perform responsibilities in paragraph entitled "CIH Responsibilities." Provide previous experience of the CIH on five (5) projects of comparable size, cost and complexity. Submit proper documentation that the Industrial Hygienist is certified by the American Board of Industrial Hygiene in comprehensive practice, including certification number and date of certification/re-certification.
2. **Qualifications of Competent Person:** Submit to the Architect for approval the name, address, and telephone number of the Competent Person assigned to supervise this operation. Provide all previous experience of the Competent Person related to Lead Abatement operations.
3. **Testing Laboratory:** Submit to the Architect for approval, the name, address, and telephone number of the testing laboratory selected to performing the analysis and reporting of airborne concentrations of lead wipes, and TCLP sampling. Provide proper documentation that persons performing the analysis have been judged proficient by successful participation within the last year in the American Industrial Hygiene Association (AIHA). Environmental Lead Proficiency Analytical Testing Program (ELPAT). The laboratory shall be accredited by the American Industrial Hygiene Association (AIHA). Provide AIHA and ELPAT documentation along with date of accreditation / re-accreditation.
4. **Lead-Containing Material Removal Plan:** Ten (10) days before work starts, submit to the Architect for approval, a detailed job-specific plan, approved by the CIH, of work procedures to be used in the removal of lead-containing paint or materials. The plan shall include the name of the Competent Person assigned to supervise the operation, a sketch showing the location, size, and details of lead control areas, type of containment materials used, location and details of decontamination rooms, change rooms, shower facilities, and HEPA filtered mechanical ventilation system.
 - a. Include in the plan, eating, drinking, smoking and restroom procedures, interface of trades, sequencing of lead related work, collected wastewater and lead paint and/or lead containing material debris disposal plan, air sampling plan, respirators, protective equipment, and a detailed description of the method of containment of the operation to ensure that airborne lead concentrations of 30 micrograms per cubic meter of air are not exceeded outside of the lead control area.
 - b. Include air and floor wipe sampling, strategy, sampling methodology, frequency, duration of sampling, and qualifications and training of air monitoring personnel in the sampling portion on the plan.
5. **Field Test Reports: Monitoring Results:** Submit all monitoring results to the Architect's Occupational Health, Environmental, and Safety Office representative, by the next work day. All monitoring and floor wipe test results shall be signed by the testing laboratory, the employee performing the sampling, the employee that analyzed the sample, and the CIH. The quickest turn around time available, shall be used for all floor wipe tests, taken to clear a lead control area.

6. Records:

- a. Submit completed and signed hazardous waste manifest from treatment or disposal facility.
- b. Before work starts, submit to the Architect for approval, certification of Medical Examinations as required by 29 CFR 1926.62. The CIH shall certify that all employees, who will be engaged in lead - containing material removal operations, have been medically cleared as required by 29 CFR 1926.62.
- c. Before work starts, submit to the Architect for approval, certification of employee training certified by the CIH.
- d. Before work starts, submit to the Architect for approval, the CIH approved, the contractor's employee respiratory protection program.
- e. Before work starts, submit to the Architect for approval, certification of employees respirator fit testing certified by the CIH.
- f. Before work starts, submit to the Architect for approval, the CIH approved copy of the Hazard Communication Program as required by 29 CFR 1910.1200.
- g. Before work starts, submit to the Architect for approval, the Contractor's CIH approved lead compliance program in accordance with 29 CFR 1926.62(e)(2).

PART 2 PRODUCTS**2.1 PAINT REMOVAL PRODUCTS:**

- A. **Submit for approval**, applicable Material Safety Data Sheets for paint removal products used in paint removal work. Use the least toxic product, suitable for the job and acceptable to the CIH.

PART 3 EXECUTION**3.1 PROTECTION**

- A. **Notification:** Notify the Architect's Occupational Health, Environmental, and Safety Office representative 10 days prior to the start of any lead abatement work.
- B. **Lead Control Area Requirements:**
 1. **Establish a lead control area** by completely enclosing with 6 mil poly, where lead-containing material removal operations will be performed.
 2. **Contain removal operations** by the use of a negative pressure full containment system with at least one change room and with HEPA filtered exhaust, exhausted to the outside of the building. The negative pressure containment, shall have a minimum of 6 air changes per hour. The contractor shall maintain a -0.020 column inches of water pressure differential, relative to outside pressure. This measurement shall be recorded and maintained within the enclosure as evidenced by manometric measurements and maintained around the clock, or until authorization for containment removal is obtained

from the Architect. Hourly readings shall be recorded while lead removal work is being performed. Anytime the negative pressure is less than -0.020 column inches of water pressure differential, relative to outside pressure, all lead removal work inside the containment will stop. The work may be restarted only after the negative pressure is restored to a level of -0.020 column inches of water pressure differential or greater, relative to outside pressure.

- C. **Protection of Existing Work to Remain:** Perform Lead - Containing Material removal work without damage or contamination of adjacent areas. Where existing work is damaged or contaminated, the contractor will restore it to its original condition.
- D. **Boundary Requirements:** Provide physical boundaries around the lead control area by sealing off the area [As designated on the approved work plan] to ensure that airborne concentrations of lead will not reach 20 micrograms per cubic meter of air outside of the lead control area.
- E. **Heating, Ventilating and Air Conditioning (HVAC) Systems:** Shut down, lock out, and isolate HVAC systems that supply, exhaust, or pass through the lead control areas. Seal intake and exhaust vents in the lead control area with 6-mil plastic sheet and tape. Seal seams in HVAC components that pass through the lead control area.
- F. **Change Room and Shower Facilities:** Provide clean change rooms and shower facilities within the physical boundary around the designated lead control area in accordance with requirements of 29 CFR 1926.62.
- G. **Mechanical Ventilation System:**
 - 1. **Use adequate ventilation** to control personnel exposure to lead in accordance with 29 CFR 1926.62.
 - 2. **Contain removal operations** by the use of a negative pressure full containment system with at least one change room and with HEPA filtered exhaust, exhausted to the outside of the building. The negative pressure containment, shall have a minimum of 6 air changes per hour. The contractor shall maintain a -0.020 column inches of water pressure differential, relative to outside pressure. This measurement shall be recorded and maintained within the enclosure as evidenced by manometric measurements and maintained around the clock, or until authorization for containment removal is obtained from the Architect. Hourly readings shall be recorded while lead removal work is being performed. Anytime the negative pressure is less than -0.020 column inches of water pressure differential, relative to outside pressure, all lead removal work inside the containment will stop. The work may be restarted only after the negative pressure is restored to a level of -0.020 column inches of water pressure differential or greater, relative to outside pressure.
- H. **Personnel Protection:** Personnel shall wear and use protective clothing and equipment as specified herein. Eating, smoking, or drinking is not permitted in the lead control area. The CIH shall initially select the appropriate respiratory protection to be used by the employees as required by 29 CFR 1926.62.

- I. **Warning Signs:** Provide warning signs at approaches to lead control areas. Locate signs at such a distance that personnel may read the sign and take the necessary precautions before entering the area. Signs shall comply with the requirements of 29 CFR 1926.62.

3.2 WORK PROCEDURES

- A. **Perform removal of Lead-Containing Material** in accordance with approved Lead-Containing Material removal plan. The assigned Competent Person shall supervise the work and will be on site anytime work in the Lead Control area is on-going. This person shall use procedures and equipment required to limit occupational and environmental exposure to lead when Lead - Containing Material is removed in accordance with 29 CFR 1926.62, except as specified herein. Dispose of removed Lead-Containing Material, any paint chips and associated waste in compliance with Environmental Protection Agency (EPA), federal, state, and local requirements.
- B. **Personnel Exiting Procedures:** Whenever personnel exist the lead-controlled area, they shall perform the following procedures and shall not leave the work until:
 1. **Vacuum** themselves off.
 2. **Remove protective clothing** in the decontamination room, and place them in an approved impermeable disposal bag.
 3. **Shower.**
 4. **Change** to clean clothes prior to leaving the physical boundary designated around the lead-contaminated job site.
- C. **Monitoring:** Monitoring of airborne concentrations of lead shall be in accordance with 29 CFR 1926.62 and as specified herein. Air monitoring, testing, and reporting shall be performed by a CIH or an Industrial Hygiene (IH) Technician who is under the direction of the CIH.
 1. **The CIH or the IH Technician** under the direction of the CIH shall be on the job site directing the monitoring, and inspecting the Lead - Containing Material removal work to ensure that the requirements of this specification have been satisfied during the entire Lead - Containing Material removal operation.
 2. **Personal air monitoring samples** shall be taken on employees who are anticipated to have the greatest risk of exposure as determined by the CIH.
 3. **Submit results of air monitoring samples**, signed by the CIH, by the next work day after the air samples are taken. Notify the Architect immediately of exposure to lead at or in excess of the action level of 30 micrograms per cubic meter of air outside of the lead control area.
- D. **Monitoring During Lead-Containing Material Removal Work:**
 1. **Perform personal and area monitoring** during the entire Lead-Containing Material removal operation. Sufficient area monitoring shall be conducted at the physical boundary outside the lead control area to ensure unprotected personnel are not exposed above 20 micrograms per cubic meter of air.

- a. If the outside boundary lead levels are at or exceed 20 micrograms per cubic meter of air, work shall be stopped and the CIH shall notify the Architect immediately.
 - 1) The CIH shall immediately investigate, perform necessary air and/or wipe sampling and render a decision as whether these areas are contaminated are not. The findings of the investigation and the results of any samples taken, shall be reported to the Architect immediately.
 - 2) If the area investigated by the CIH is found to be contaminated with lead, the following procedures shall be followed:
 - a) Work in all lead containment operations shall remain halted.
 - b) The contractor shall decontaminate (clean up) the contaminated area.
 - c) The CIH shall determine the source and cause of the contamination, along with the necessary corrective measures to be taken.
 - d) The contractor shall decontaminate the contaminated area using the corrective measures outlined by the CIH.
 - e) The CIH shall visually inspect the “contractor cleaned” contaminated area and perform floor wipe tests. The number of floor wipe tests will be determined by the CIH. Results of the floor wipe tests shall be less than 100 µg/ft². The CIH shall submit copies of all sample results along with a certification that the area is no longer contaminated with lead.
 - f) If on the second try, the contractor is unable to achieve a floor wipe sample result of less than 100 µg/ft² for a particular area, the following procedures shall be followed:
 1. The CIH shall render a decision as to what clearance level would be achievable for that particular area.
 2. The CIH shall submit to the Architect this decision, along with copies of the sampling data for area, along with a certification that the area is no longer contaminated with lead.
 - G) The Architect will issue the authority to restart work in the lead control area, once the CIH certifies to the Architect, that the contaminated area has been successfully decontaminated.
2. **The CIH** shall review the sampling data collected on that day to determine if condition(s) requires any further change in work methods. Removal work shall resume when approval is given by the Architect.
3. **The Contractor** shall control the lead level outside of the work boundary to less than 30 micrograms per cubic meter of air at all times. As a minimum, conduct area monitoring daily on each shift in which Lead - Containing Material removal operations are performed in areas immediately adjacent to the lead control area. If any outside the work boundary lead levels are at or exceed 30 micrograms per cubic meter of air, work shall be stopped and the CIH shall immediately correct the

condition(s) causing the increased levels and notify the Architect immediately. Removal work shall resume when approval is given by the Architect.

3.3 SHROUDED DRILL WITH INTEGRATED HEPA VACUUM SYSTEM

- A. **General:** A shrouded drill with integrated HEPA vacuum system is a commercially-available shrouded drill designed to prevent the release of cuttings into the environment. The shroud is designed to allow an approved and certified HEPA vacuum to be attached to the tool. All drill cuttings, dust, lead and released fibers shall be drawn through the shroud and into the HEPA vacuum system. Placing the inlet hose of a HEPA vacuum in the vicinity of the drilling operation is not an approved alternative to the use of the shrouded drill with integrated HEPA vacuum system.
- B. **A shrouded drill with integrated HEPA system** may be used when the drilling of holes less than one (1) inch in diameter holes in lead-containing wall, or floor materials are required.

3.4 LEAD-CONTAINING Material REMOVAL

- A. **Remove Lead - Containing Material** within the areas designated on the approved Lead - Containing Material removal plan in order to completely expose the substrate. Take whatever precautions are necessary to minimize damage to the underlying substrate.
- B. **Indoor Lead-Containing Material Removal:** Select Lead - Containing Material removal processes to minimize contamination of work areas with lead-contaminated dust or other lead-contaminated debris/waste. This Lead - Containing Material removal process shall be described in the Lead - Containing Material removal plan approved by the Architect.
- C. **After beginning the Lead-Containing Material** removal operation or at the direction of the Architect, the following procedures shall be followed, concerning all reports of possible lead contamination in occupied spaces, within a building that has a Lead Control area:
 - 1. **The CIH** shall immediately investigate, perform necessary air and/or wipe sampling and render a decision as whether these areas are contaminated and develop a corrective plan of action. The findings of the investigation and the results of any samples taken, shall be reported to the Architect immediately.
 - 2. **If the area investigated** by the CIH is found to be contaminated with lead, the following procedures shall be followed:
 - a. Work in all lead containment operations shall be halted.
 - b. The contractor shall initiate the corrective plan of action plan developed by the CIH in order to decontaminate the area.
 - c. The CIH shall determine the source and cause of the contamination, along with the necessary corrective measures to be taken to prevent a reoccurrence.

- d. Before any lead abatement work is restarted, the CIH must certify to the Architect, that the source and cause of the contamination has been corrected. Work may restart once approval from the Architect is received.
- e. The CIH shall visually inspect the “contractor cleaned” contaminated area and perform floor wipe tests. The number of floor wipe tests will be determined by the CIH. Results of the floor wipe tests shall be less than 100 µg/ft². The CIH shall submit copies of all sample results along with a certification that the area is no longer contaminated with lead.
- f. If on the second try, the contractor is unable to achieve a floor wipe sample result of less than 100 µg/ft² for a particular area, the following procedures shall be followed:
 - 1) The CIH shall render a decision as to what clearance level would be achievable for that particular area.
 - 2) The CIH shall submit to the Architect this decision, along with copies of the sampling data for area, along with a certification that the area is no longer contaminated with lead.

3.5 CLEANUP AND DISPOSAL:

- A. **Cleanup:** Maintain surfaces of the lead control area free of accumulations of Lead - Containing Material chips and dust. Restrict the spread of dust and debris; keep waste from being distributed over the work area. Do not dry sweep or use compressed air to clean up the area. At the end of each shift and when the Lead - Containing Material removal operation has been completed, clean the area of all visible Lead - Containing Material contamination, dust and debris by vacuuming with a HEPA filtered vacuum cleaner and wet wipe and or mopping the area.
- B. **Certification:** The CIH shall certify in writing the following:
 - 1. **The inside and outside** of each lead control area air monitoring samples are less than 30 micrograms per cubic meter of air.
 - 2. **The respiratory protection** for the employees was adequate and the work procedures were performed in accordance with 29 CFR 1926.62 and this specification, and that there were no visible accumulations of lead-contaminated Lead - Containing Material and dust on the work site.
 - 3. **The CIH** shall perform floor wipe test(s) by using methodology that is outlined in HUD’s Guidelines for the Evaluation and Control of Lead - Based Paint hazards in Housing. A Lead Control area is considered complete if all floor wipe sample results are below 100µg/ft². Do not remove the lead control area or roped-off boundary and warning signs prior to the Architect's approval and receipt of the CIH's certification.
 - 4. **Re-clean and re-sample** any Lead Control area showing dust or residual Lead - Containing Material (chips) or floor wipe sample results that are above 100µg/ft².
 - 5. **If after the second attempt**, the contractor is unable to achieve a floor wipe sample result of less than 100 g/ft² for a particular lead control area, the following procedures shall be followed:

- a. The CIH shall render a decision as to what clearance level would be achievable for that particular control area.
 - b. The CIH shall submit to the Architect this decision, along with copies of the sampling data for containment removal approval.
 - c. The Architect may have the CIH's decision reviewed by a third party CIH.
- C. **Testing of Lead-Containing Material Residue:** Where indicated or when directed by the Architect, test all potential Lead - Containing waste by following the Toxicity Characteristic Leaching Procedure (TCLP) for lead in accordance with 40 CFR 261.
- D. **Disposal:**
1. **Collect** all potential lead-contaminated waste, including but not limited to, removed paint chips, abrasive blast medium, architectural components, scrap, debris, bags, containers, equipment, and lead-contaminated clothing.
 2. **For drummed waste**, store in U.S. Department of Transportation (49 CFR 178) approved 55-gallon drums to identify the type of waste (49 CFR 172) and the date lead contaminated wastes were first put into the drum. For architectural components, e.g., doors, windows, and molding, store so as to prevent environmental contamination. Six - mil plastic sheeting should be placed underneath and on top of the material; plywood or other durable material should be placed on top of the plastic to prevent it from being punctured. Transport waste in covered vehicle only.
 3. **Periodically remove hazardous wastes** so that 90 calendar day storage limitation is not exceeded.
 4. **Handle, store, transport, and dispose** lead or lead-contaminated waste in accordance with 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, and 40 CFR 265. Comply with land disposal restriction notification requirements as required by 40 CFR 268.
 5. **Disposal Documentation:** Submit written evidence that the hazardous waste transporter and the treatment, storage, or disposal facility (TSDF) is approved for lead disposal by the EPA and state or local regulatory agencies. Submit one copy of the completed manifest, signed and dated by the initial transporter in accordance with 40 CFR 262. Submit Certification of disposal from TSDF.

END OF SECTION 13082

SECTION 13281 - ASBESTOS ABATEMENT PROCEDURES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

- A. **General:** This section includes required procedures necessary to reduce air concentrations of asbestos to the specified level and maintain the specified asbestos control limits that is mandated during the life of the contract. It also includes procedures for the encapsulation, removal, containment, and disposal of asbestos containing materials.

1. Work Area: See Contract Drawings.
2. The following asbestos containing materials are to be disturbed or encapsulated:

Concealed spine ceiling tiles containing asbestos are identified on the drawings.

1.2 QUALITY ASSURANCE:

- A. **Definitive Responsibility Criteria:**

1. **Qualifications For the Asbestos Abatement Contractor:**

- a. **Asbestos Abatement Experience:** Provide the name and location of at least five (5) prior asbestos abatement projects, successfully performed by the selected Asbestos Abatement Contractor, that are comparable in scope of work, structure, project costs and in complexity. For each project include the name and current telephone number of the project's contract representative. Address how each project is comparable in scope of work, structure, project costs and complexity.
- b. **Project Documents:** Provide copies of the daily logs and air monitoring reports including final clearance sample results, for the five abatement projects submitted in response to the preceding paragraph.
- c. **Pollution Liability Insurance:** Submit proof of Pollution Liability Insurance coverage. If the completion date of the bid project is beyond the effective dates of the Pollution Liability Insurance coverage, then the selected contractor shall submit a statement stating it is understood, that this Pollution Liability Insurance coverage, shall remain in effect throughout the duration of this contract.
- d. **Federal/State EPA and OSHA citations:** Provide a list all federal and State EPA or OSHA citations the Contractor has received in the last five (5) years.

2. **Qualifications for the Supervisor / Competent Person:** Provide the name and experience record of the proposed Supervisor/Competent Person and foreman, the selected Asbestos Abatement Contractor, will assign to this project. Provide evidence that the proposed Supervisor/Competent Person has supervised at least five (5) asbestos abatement contracts of comparable scope and complexity.

- a. **Accreditation:** Provide evidence that shows the proposed Supervisor/Competent Person, is accredited as an asbestos Contractor/Supervisor as described in 40 CFR Part 763 (EPA's Model Accreditation Plan).

3. **Qualifications for the Certified Industrial Hygienist (CIH):** Provide the name and experience record of the CIH selected to perform the duties outlined in “Project Certified Industrial Hygienist” below. Provide evidence showing that, in the last five years, the selected CIH has performed abatement oversight on projects of comparable scope and complexity.
 - a. **Certification, Accreditation and Training:** Provide evidence that shows the selected CIH (1.) is certified in Comprehensive Practice by the American Board of Industrial Hygiene (ABIH) (2.) is currently accredited as an Asbestos Building Inspector, Contractor/Supervisor, and Project Designer as described in 40 CFR Part 763 (3.) has successfully completed the National Institute of Occupational Safety and Health (NIOSH) 582 course *Sampling and Evaluating Airborne Asbestos Dust* or equivalent (4.) is currently registered in the American Industrial Hygiene Association’s (AIHA) *Asbestos Analytical Registry* (5.) is currently participating in their *Proficiency Analytical Testing* (PAT) certification program.
 - b. **Errors and Omissions Insurance:** Provide evidence showing the Project CIH has Errors and Omissions Insurance coverage. If the completion date of the project is beyond the effective dates of the insurance coverage, submit documentation stating that the CIH(s) Errors and Omissions Insurance coverage will be kept current and in effect for the duration of the project.
4. **Qualifications for the Industrial Hygienist (IH):** Name of and experience record of the Industrial Hygienist(s) (IH), the CIH selects, who are qualified by virtue of their training and work experiences, to perform duties assigned by the CIH. Show experience on 5 projects of comparable scope and complexity, that the IH has overseen in the last five years. Provide evidence that:
 - a. The selected IH is currently Accredited as an asbestos building inspector, Contractor/Supervisor, and Project Designer as described in 40 CFR Part 763.
 - b. The selected IH has successfully completed the NIOSH 582 course *Sampling and Evaluating Airborne Asbestos Dust* or equivalent and is currently registered in the American Industrial Hygiene Association’s (AIHA) *Asbestos Analytical Registry*.
 - c. The selected IH is currently participating in their (PAT) certification program.
5. **Testing Laboratory Qualifications:** Proof of qualifications of testing laboratory and personnel as follows:
 - a. **Accreditation:** Provide proof of accreditation by the AIHA for asbestos analysis, and the NIST under National Voluntary Laboratory Accreditation Program (NVLAP) for asbestos analysis.
 - b. **Proficiency:** Provide the two most recent consecutive quarterly reports showing the laboratory analyzing the samples has been judged proficient by successful participation in the NIOSH’s PAT certification and Bulk Asbestos Proficiency Analytical Testing (ELPAT) programs.
 - c. **Laboratories and Microscopists:** Provide proof the laboratory(s) selected to analyze project samples is accredited by the American Industrial Hygiene Association (AIHA), holds appropriate state license and successful participation of the laboratory in the Proficiency Analytical Testing (PAT) Program. For microscopists to analyze fibers-in-air samples on site, provide proof that they have been judge by current inclusion on the AIHA Asbestos Analyst's Registry (AAR).

- d. **Errors and Omissions Insurance:** Provide evidence showing the laboratory has Errors and Omissions Insurance coverage. If the completion date of the project is beyond the effective dates of the insurance coverage, submit documentation stating that the laboratory's Errors and Omissions Insurance coverage will be kept current and in effect for the duration of the project.
- B. **Contractors performing** asbestos abatement work for the Architect of the Capitol in the District of Columbia are required to be licensed to do asbestos work in the District of Columbia. The Contractor shall comply with the licensing regulations of:
- Government of the District of Columbia
Department of Consumer and Regulatory Affairs (DCA)
Environmental Regulation Administration
51 N Street NE
5th Floor
Washington, DC 20002
- C. **Contractor employees** assigned to active asbestos work areas in the District of Columbia must be licensed by the District of Columbia as trained asbestos workers and supervisors. The Abatement Personnel shall have completed the EPA AHERA/OSHA abatement worker/supervisor course; have training on the standard operating procedures of the Abatement Contractor; have one year of asbestos abatement experience; have applicable medical and respiratory protection documentation; have certificate of training and State accreditation/license.
- D. **Asbestos Control Limits:** The enclosed work areas shall be defined as a regulated area in accordance with 29 CFR 1910.1001 and 29 CFR 1926.1101.
1. **Inside Asbestos Work Area:** For personnel wearing negative-pressure respirators, air concentrations of asbestos shall not exceed an 8-hour time weighted average of 0.1 fibers (longer than 5 microns), per cubic centimeter of air as determined by the NIOSH 7400 method. Regardless of respiratory protection worn, air concentrations inside the work area will not exceed an 8-hour time weighted average of one (1) fiber per cubic centimeter as determined by the NIOSH 7400 method. In the event that this level is exceeded, all work in the asbestos work area shall stop and may not restart until fiber levels are below an 8-hour time weighted average of one (1) fiber per cubic centimeter as determined by the NIOSH 7400 method. It is the responsibility of the Contractor to provide an independent industrial hygiene consultant to provide the required personal air monitoring and to assure that all safety and health procedures are followed.
 2. **Outside Asbestos Work Area:** Air concentrations of asbestos shall not exceed 0.01 fibers (longer than 5 microns) per cubic centimeter of air as determined by the NIOSH 7400 method. This applies to all areas in the building while work is in progress, except for the asbestos work area. Anytime this level is exceeded, all work in the asbestos work area will be stopped and may not restart until approval from the AOC/SOHB is given. To assure compliance with this provision, the government may provide (in addition to the approved sampling plan), air monitoring outside the Contractor's work area. If used, the government's industrial hygienist will have unrestricted access to the Contractor's work site. If the asbestos abatement Contractor wishes, he may perform any additional air sampling to assure compliance and for comparison with this specification.

- E. **Project Certified Industrial Hygienist (Project CIH):** The primary Contractor shall engage the services of a CIH certified in Comprehensive Practice by the American Board of Industrial Hygiene (ABIH) for the period of this contract. Selection of the Project CIH is subject to approval of the Architect. This person is responsible for all environmental oversight of this contract. Although contracted by the General Contractor, the Project CIH is responsive to the Architect. During the contract period, the Project CIH is required to be on call and to be on project site within two hours after notification by the Architect. Additionally, the Project CIH will arrange for another Architect approved CIH, to be a back-up, to cover duties assigned under this specification, in the event that the selected Project CIH is not able to be on site as required or cannot report to the project site within the allotted 2 hours. Responsibilities for the Project CIH include but shall not be limited to the following:
1. **Coordination meeting.** Immediately after selection the Project CIH will contact the Architect to schedule a coordination meeting. Suggested attendees to this meeting are: the AOC Construction Manager, a representative of the AOC/SOHB, and a representative of the AOC jurisdiction where the work is being performed. The purpose of this coordination meeting is to establish a clear working knowledge of the project and the responsibilities of the Project CIH with the Architect's staff.
 2. **Certify**, that prior to beginning any abatement activity, all personnel is trained in accordance with OSHA 29 CFR 1926.1101 (k)(9) and any additional State/Local requirements. Training must include, at a minimum, the elements listed at 29 CFR 1926.1101 (k)(9)(viii). Training shall have been conducted by a third party, EPA/State approved trainer meeting the requirements of EPA 40 CFR 763 Appendix C (AHERA MAP). Provide copies of the initial training certificates and all refresher taken to date.
 3. **Certify** that medical examinations meeting the requirements of 29 CFR 1926.1101 (m) are provided for all personnel working in the regulated area, regardless of exposure levels. The physician's written opinion as required by 29 CFR 1926.1101 (m)(4) shall be provided for each person and shall include in the opinion the person has been evaluated for working in a heat stress environment while wearing personal protective equipment and is able to perform the work.
 4. **Review**, approve and submit for review to the Architect:
 - a. **All asbestos abatement plans** of action for conformance to applicable referenced standards and this specification.
 - b. **All submittals** (except initial submittal of contractor qualification information) the Contractor submits under paragraph 1.4.
 - c. **All sampling data** within the time frames outlined in this specification.
 5. **Review**, approve and submit to the Architect for review all required Material Safety Data Sheets (MSDS) submitted by the Contractor.
 6. **Inspect and or oversee** the inspection of, asbestos abatement removal work for conformance with the approved plan.
 7. **Develop and submit** for review a daily monitoring plan to test airborne levels of asbestos to determine exposure levels. The plan will include all personal, area, and final air samples to be used to clear a containment area.
 8. **Perform daily monitoring** in accordance with the approved plan.
 9. **Ensure all work** is performed in strict accordance with this specification at all times.
 10. **Ensure hazardous exposure** to personnel and to the environment are adequately controlled at all times.

11. **The Project CIH shall visually inspect** and approve all asbestos containment areas before asbestos containing materials are removed and before performing any final air tests.
 12. **At the direction** of the AOC/SOHB, the Project CIH shall investigate possible contaminations and contamination related complaints. The Project CIH, shall perform any necessary sampling and/or site investigations in order to develop findings and conclusions of the reported incidence. Submit a verbal report that outlines all findings of the investigation to the AOC/SOHB within 24 hours of the initial notice. Submit a final written report to the AOC/SOHB within 3 work days of the initial notice.
 13. **With the approval of the Architect the Project CIH** may select IH (s) to perform duties assigned by the Project CIH. The selected IH (s) shall be under the direct supervision of the Project CIH, who will be responsible for IH(s) job performance, and will review and approve all results of their work. The selection of IH (s) shall be based on their training and work experiences and will be subject to the approval of the Architect.
 14. **PPE:** Establish the Personal Protective Equipment (PPE) daily.
- F. **Project Competent Person:** The abatement contractor shall assign a competent person as defined in 29 CFR 1926.1101, as a person who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, and who has the authority to take prompt corrective measures to eliminate them. This person shall meet the criteria outlined in paragraph 1.2.A.2, of this specification and is required to be on site supervising the work. Responsibilities for the Project Competent Person include but shall not be limited to the following:
1. Comply with the requirements outlined in 29 CFR 1926.1101, paragraph (o) *Competent Person*.
 2. Follow the requirements outlined by the Project CIH.
 3. Limit access to the abatement area by permitting only authorized personnel and personnel listed in "Access to Work Area" below to enter.
 4. No employee shall be allowed to wear a respirator unless a physician has determined they are capable of doing so and has issued a written opinion for that person.
 5. All personnel wearing respirators shall have a current qualitative/quantitative fit test which was conducted in accordance with 29 CFR 1910.134 (f) and Appendix A. Fit tests shall be done for PAPRs with the blower off.
 6. The Competent Person shall assure that the positive/negative fit check is done each time the respirator is donned by an employee. Head coverings must cover respirator head straps. Any situation that prevents an effective face piece to face seal as evidenced by failure of a fit check shall preclude that person from wearing a respirator until resolution of the problem.
 7. Maintain a daily log of all persons who enter and exit the work area until the containment is authorized for removal.
 8. Working with the project CIH, ensure that all documents are filed in the final report due three days after the containment is authorized for removal.
 9. Ensure that only personnel with current EPA accreditation and DC asbestos license, perform abatement work in the work area.

1.3 REFERENCES:

A. American National Standards Institute (ANSI) Publication:

1. Z9.2-79 - Fundamentals Governing the Design and Operation of Local Exhaust Systems

B. American Society for Testing and Materials (ASTM) Publication:

1. E 849-82 - Safety and Health Requirements relating to Occupational Exposure to Asbestos

C. Code of Federal Regulations (CFR):

1. 29 CFR 1910.1001, Occupational Safety and Health Act (OSHA), INCLUDING Appendix A through I.
2. 29 CFR 1910.20, Subpart C, General Safety and Health Provisions.
3. 29 CFR 1910.134, OSHA General Industry Respirator Requirements.
4. 29 CFR 1926.1101, Occupational Exposure to Asbestos, Construction Industry Standard, INCLUDING Appendix A through K.
5. 40 CFR Part 61, Subpart M: U.S. Environmental Protection Agency, National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos.

D. State and Local Regulations:

1. Applicable state and local regulations shall apply.

E. Architect of the Capitol

1. The Architect of the Capitol's *Uniform Asbestos Management Program*.
2. Other special requirements listed by the AOC.

1.4 SUBMITTALS:**A. General:** Transmit all submittals to the Architect for review.**B. Initial Submittal of Asbestos Abatement Contractor or Subcontractor Qualification Information:** Items 1 through 3 below are to be submitted as a complete package after the bid receipt, but are required to be reviewed by the AOC Safety and Environmental Division (AOC/SOHB) prior to Notice to Proceed.

1. **Asbestos Abatement Contractor or Subcontractor Qualification Information:** Submit for review, the name, address, telephone number and required documentation of qualifications of the Asbestos Abatement Contractor or Subcontractor, selected for this contract.
2. **Certified Industrial Hygienist (Project CIH):** Submit name, address, telephone number and required documentation of qualifications of the Certified Industrial Hygienist selected to perform the duties outlined in 1.2.E above.
3. **Experience and Qualifications of Supervision:** Submit name of and required documentation of qualifications of the proposed competent person who would be assigned to this project, as outlined in "Definitive Responsibility Criteria" above.

C. Post-Award Asbestos Abatement Submittal: Items listed below are to be submitted after the award, but are required to be reviewed and recommended approved, by the Project Certified Industrial Hygienist (CIH) prior to submission to the Safety and Occupational Health Branch or his designated representative. These actions must be completed prior to starting work.

1. **Experience and Qualifications of Workers:** Name and experience record, if any, of workmen who will be assigned to this project. Include for each person evidence of successful completion of State of Maryland or Commonwealth of Virginia training given by qualified personnel. Provide certification that employees meet the OSHA medical surveillance requirements.
2. **License Information:** Provide a copy of a current District of Columbia Asbestos Contractor's License and Individual Asbestos License for asbestos projects in the District of Columbia.
3. **CIH Approved Plan of Action:** Before start of work submit the design and layout of the regulated area and the negative air machines. The submittal shall indicate the number of, location of, and size of negative air machines. The point(s) of exhaust, air flow within the regulated area, anticipated negative pressure differential, and supporting calculations for sizing shall be provided. In addition, submit the following:
 - a. Manufacturer's information on the negative air machine(s).
 - b. Method of supplying power to the units and designation/location of the panels.
 - c. Description of testing method(s) for correct air volume and pressure differential.
 - d. Provide manufacturer's product data on the pressure differential measuring device used.

There will be 4 air exchanges required with minus 0.02 inch of water pressure differential. The plan must include the location and layout of each containment and decontamination areas, the sequencing of asbestos work, the interface of trades involved in the performance of work, methods to be used to assure the safety of building occupants and visitors to the site. The plan must explain the use of portable HEPA ventilation systems, identify the means of isolating the building's HVAC system during removal operations, detail the method of removal to prohibit emissions into the work area, and identify the method of packaging the asbestos waste. No locally exhausted HEPA filtered drills or saws shall be used as the sole means of containment of drilling or cutting asbestos-containing materials unless prior approval is given by the AOC/SOHB.

4. **Project CIH Approved Area Sampling Plan:** Submit a detailed plan which shows the proposed air sampling strategy to be used to comply with the requirements specified. This plan must be separate from the CIH approved plan of action. Show all locations where sampling will occur during the asbestos abatement operation.
5. **Temporary Storage of Containerized Asbestos Waste:** Submit a request to the AOC, requesting a location for temporary storage of containerized asbestos waste that is generated by this project.
6. **Project CIH Approved Disposal Plan:** Submit to the Architect a disposal plan including the location of the approved disposal site and the contractor's method for documenting proper asbestos disposal. Detail the methods by which the containerized asbestos waste is taken from the work area to the temporary storage area.
7. **IH qualifications:** Submit the name and required documentation of qualifications of the proposed IH (s) for this project.
8. **NESHAP Notification Requirements:** The contractor shall coordinate with the AOC/SOHB, in submitting the appropriate written notification. Any costs incurred due to expiration of the EPA NESHAP notice before completing assigned abatement work will be at the expense of the Contractor. **For the purpose of this contract, initial and all changes to the initial notification shall be postmarked by the appropriate addressee**

below, at least 10 working days and 35 calendar days respectively, prior to the start of asbestos abatement work:

- a. Ten (10) working days prior to beginning asbestos abatement work notify:

U. S. Environmental Protection Agency Region III
Pesticides/Asbestos
Programs and Enforcement Branch
Mail Code: 3WC32
1650 Arch Street
Philadelphia, PA 19107

And

District of Columbia
Department of Health
Air Quality Division
51 N Street NE
Washington, DC 20002
Phone: (202) 535-2259
FAX Number 202-535-1371

Thirty Five (35) days prior to beginning asbestos abatement work notify:

AOC, Safety and Occupational Health Branch (AOC/SOHB)
Ford House Office Building
Room HOB2-553
Washington DC 20515
Phone: (202) 225-4043
FAX NUMBER (202) 226-9915

And the affected AOC Building Superintendent to satisfy the District of Columbia's building occupant asbestos abatement notification requirement.

- b. **Changes to the original NESHAP Notification:** Any changes to the original notification, shall be coordinated with the AOC/SOHB prior to submission. After this coordination, the Contractor shall submit changes to the original notification, pursuant to the NESHAP requirements, within the time frames specified and to the appropriate jurisdiction listed above.
- c. **Emergency NESHAP Notices:** The Contractor, shall contact the AOC/SOHB, for procedures regarding the submission of any emergency notifications, pursuant to the NESHAP requirements.
9. **AOC Asbestos Project Number:** Contact the AOC/SOHB at 202-225-4043 for this number. This Asbestos Control Number will be used in all documents concerning this project.
10. **Certificates of Compliance:** RESERVED
11. **Information on Encapsulating Material:** Submit written evidence that material meets the the specified characteristics and the latest requirements of the EPA.

12. **Laboratory Qualification Information:** Submit proof of required qualifications of testing laboratory and their personnel. See “Testing Laboratory Qualifications”.
 13. **Containers For Disposal of Friable Asbestos:** Submit for review, the manufacturers cut sheet for the bags and containers the contractor intends to use to dispose of the asbestos containing material. Bags shall be minimum of 6 mil polyethylene (or equivalent) and labeled in accordance with 40 CFR Part 61 subpart M (NESHAP) and 29 CFR 1926.1101.
 14. **Decontamination Facility:** Unless otherwise specified by the AOC/SOHB, throughout the time that asbestos abatement is taking place, the Asbestos Abatement Contractor will maintain a working three-stage decontamination facility at the point of access to the containment. As a minimum, the decontamination facility will consist of a clean changing area, an air space, a shower, another air space, and a contaminated changing area. The size and location of this facility shall be reviewed by the AOC/SOHB.
 15. **Sequencing/Scheduling:** Submit for review, the sequencing and/or scheduling for each containment or containments being performed under this contract, to the AOC/SOHB.
 16. **Filtering for vacuums and exhaust equipment** shall conform to ANSI Z9.2. HEPA filters shall be used in all vacuums and exhaust equipment. All HEPA filtered vacuums and exhaust equipment shall be tested for integrity with a Dioctylphthalate (DOP) or Dioctylsubacate (DOS) smoke generator. Submit evidence showing that all HEPA filtered vacuums and exhaust equipment, scheduled for use under this Contract, have been tested and passed an DOP or DOS smoke generator.
 17. **HEPA Filter Replacement:** If any HEPA filtered vacuums or ventilation equipment requires HEPA filter replacement during this abatement operation, another dioctylphthalate (DOP) test shall be performed. The results of the dioctylphthalate (DOP) test shall be submitted when received and reviewed by the AOC/SOHB before re-using the equipment under this Contract.
 18. **Encapsulant Requirements:** Submit, before the start of work, the manufacturer's technical data for all types of encapsulant used on the project. Provide application instructions. Submit certification data as required in Encapsulant section. Submit MSDS for each material in compliance with 29 CFR 1910.1200. Submit certification from manufacturer that material it will adequately wet ACM as per NESHAP requirements.
- D. **During-Work Asbestos Abatement Submittal:** After review and approval by the Project CIH, submit items required under 1.4D1 and 1.4D2 to the AOC/SOHB as the work progresses and at the times specified.
1. **Air Monitoring and Work Area Inspections:**
 - a. **Air Monitoring Results:** Post for all workers to see, within 24 hours of collection, the results of all air monitoring conducted. Post the results at a location designated by the General Contractor and notify the AOC/SOHB. A copy of the results shall be provided to the AOC/SOHB within the same time frame.
 - b. **Differential Air Pressure Readings:** Starting when a negative pressure containment is erected and approved by the Project CIH, a strip chart recorder shall be installed and work area relative pressure shall be monitored 24 hours a day until final air clearances are produced. Submit a copy of the daily strip chart record to the AOC/SOHB within 24 hours after the recording was made.
 - c. **Work Area Inspections:** The Project CIH shall personally perform a visual inspection of the abatement work area for the pre-removal, pre-final, and re-occupancy stage. The Project CIH or the IH(s) working for the Project CIH, will

perform visual inspections of the abatement work area daily and pre-final. Submit documentation of the daily, pre-removal, pre-final inspections to the AOC/SOHB, within 24 hours of completion. Documentation of the re-occupancy stages of the work inspection shall be submitted to the AOC/SOHB as soon as completed.

2. **Transporting and Disposing of Asbestos Containing Materials (ACM):**

- a. **Disposal Receipts:** Submit receipts from the transporter, that acknowledge the contractor's shipment of ACM from the site (NESHAP Waste Shipment Records) within three (3) days following removal of ACM from the premises. Provide on each receipt the date, quantity of material removed, and signature of an authorized representative of the transporter. A signed and dated copy to the Waste Shipment Record, showing receipt at an authorized landfill, must be received by AOC/SOHB within 10 calendar days of the date of the shipping receipt.
- b. **Transportation Vehicles:** Transportation shall be in vehicles dedicated to asbestos transportation. Vehicles shall be marked in accordance with DOT and NESHAP regulations.

E. **Final Submittal:** After review and approval by the Project CIH, submit items required under 1 and 2 below to the AOC/SOHB within 3 calendar days at the completion of work for each containment. The CIH shall submit a project report consisting of:

1. The daily log book information and documentation of events during the abatement project.
2. Copies of all waste shipment records for asbestos waste sent to the designated landfill.
3. The report shall include a certificate of completion.
4. All air and bulk sampling conducted for this project.
5. All final air clearance data.
6. All perimeter samples.
7. Copies of training certificates for all personnel engaged in this abatement work.
8. Copies of respirator fit tests for all personnel engaged in this abatement work.
9. Copies of the OSHA required asbestos and respirator medical clearances for all personnel engaged in this abatement work.
10. The final report shall include an executive summary. The executive summary must show:
 - a. A summary of the work done.
 - b. A statement that all personnel conducting this abatement operation had all required training and were medically cleared to perform this type of work in accordance with OSHA, EPA regulations and all State and Local laws, rules and regulations.
 - c. The executive summary must also show that all final air samples results were below the limits established by EPA, the District of Columbia, and this specification and declare the area ready for re-occupancy.
 - d. Describe the type, application, and quantity of asbestos containing materials removed by the contractor.
 - e. Include all copies of the final air and bulk sampling as performed by a third party.
 - f. Indicate that all building systems disturbed by the contractor during the work under the contract have been reinstalled and are in working order.

1.5 **CONTRACTOR RESPONSIBILITY:**

- A. **The Contractor** shall assume full responsibility and liability for compliance with all applicable Federal, State, and local regulations pertaining to the protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations, and shall hold the government harmless for failure to comply with any applicable safety or health regulation on the part of himself, his employees, or his subcontractors.
- B. **The Contractor shall** secure all necessary permits in conjunction with asbestos removal, hauling and disposition and provide timely notification of such actions, as may be required by federal, state, regional, and local authorities. For this project, ensure that notification to the Regional Office of the EPA and the District of Columbia is made, and provide copies of the notification to the AOC/SOHB 10 days prior to the commencement of the work. Provide notification in accordance with 40 CFR 61.22(d)(1).
- C. **The Contractor** shall inform the affected building Superintendent and the AOC/SOHB not less than thirty five (35) days prior to commencement of the asbestos abatement, of the health or safety factors that necessitate the asbestos abatement and procedures that will be taken to protect the health, safety, and possessions of the building occupants.
- D. **SITE SECURITY**
1. **Regulated area** access is to be restricted only to authorized, trained/accredited and protected personnel. These may include the Abatement Contractor's employees, employees of Subcontractors, AOC employees and representatives, State and local inspectors, and any other designated individuals. A list of authorized personnel shall be established prior to commencing the project and be posted in the clean room of the decontamination unit.
 2. **Entry into** the regulated area by unauthorized individuals shall be reported immediately to the Competent Person.
 3. **A log book** shall be maintained in the clean room of the decontamination unit. Anyone who enters the regulated area must record their name, affiliation, time in, and time out for each entry.
 4. **Access to the** regulated area shall be through a single decontamination unit. All other access (doors, windows, hallways, etc.) shall be sealed or locked to prevent entry to or exit from the regulated area. The only exceptions for this requirement are the waste load-out area which shall be sealed except during the removal of containerized asbestos waste from the regulated area, and emergency exits. Emergency exits shall not be locked from the inside, however, they shall be sealed with poly sheeting and taped until needed.
 5. **The Abatement Contractor's** Competent Person shall control site security during abatement operations in order to isolate work in progress and protect adjacent personnel. Containment shall be locked out when the competent person leaves the site. The entrance to the regulated area requires all entrants to be logged in/out so that only authorized personnel are allowed entrance.
 6. **The Abatement Contractor** will have the AOC's assistance in notifying adjacent personnel of the presence, location, and quantity of ACM in the regulated area and enforcement of restricted access by the AOC's employees.
 7. **The Abatement Contractor** shall provide plans to secure the regulated area during non-working hours.

E. EMERGENCY ACTION PLAN AND ARRANGEMENTS

1. **An Emergency Action Plan** shall be developed by the Abatement Contractor prior to commencing abatement activities and shall be agreed to by the Abatement Contractor and the AOC. The Plan shall meet the requirements of 29 CFR 1910.38 (a);(b).
2. **Emergency procedures shall** be in written form and prominently posted in the clean room and equipment room of the decontamination unit. Everyone, prior to entering the regulated area, must read and sign these procedures to acknowledge understanding of the regulated area layout, location of emergency exits and emergency procedures.
3. **Emergency planning** shall include written notification of police, fire, and emergency medical personnel of planned abatement activities; work schedule and layout of regulated area, particularly barriers that may affect response capabilities.
4. **Emergency planning** shall include consideration of fire, explosion, hazardous atmospheres, electrical hazards, slips/trips and falls, fiber release episodes, confined spaces, and heat stress illness. Written procedures addressing emergency situations shall be developed. Employees need to be aware of these procedures.
5. **Employees shall** be trained in regulated area/site evacuation procedures in the event of workplace emergencies.
 1. **For non life-threatening** situations - employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers, if necessary, before exiting the regulated area to obtain proper medical treatment.
 2. **For life-threatening** injury or illness, worker decontamination shall take least priority after measures to stabilize the injured worker, remove them from the regulated area, and secure proper medical treatment.
6. **Telephone numbers** of all emergency response personnel shall be prominently posted in the clean room, along with the location of the nearest telephone.
7. **The Emergency Action Plan** shall provide for a contingency plan in the event that an incident occurs that may require the modification of the standard operating procedures during abatement. Such incidents include, but are not limited to, fire; accident; power failure; negative pressure failure; and supplied air system failure. The Abatement Contractor shall detail procedures to be followed in the event of an incident assuring that work is stopped and wetting is continued until correction of the problem.

1.6 PROJECT/SITE CONDITIONS:

- A. **Means of Egress:** Establish and maintain emergency and fire exits from the work area.
- B. **Environmental Conditions to be Maintained:** Normal environmental conditions (heat, light, air conditioning) must be maintained outside of the work area.
- C. **DECONTAMINATION FACILITIES:** Provide each work area with separate personnel decontamination facility (PDF) and equipment decontamination facilities (EDF). Ensure that the PDF is the only means of ingress and egress to the regulated area and that all equipment, bagged waste, and other material exit the regulated area only through the EDF. See OSHA 29 CFR

1926.1101, Appendix F. The size and location of this facility shall be reviewed by the AOC/SOHB.

1. **GENERAL REQUIREMENTS.** All personnel entering or exiting a regulated area shall follow the requirements of 29 CFR 1926.1101 (j)(1) and these specifications. All equipment and materials must exit the regulated area through the EDF and be decontaminated in accordance with these specifications. Walls and ceilings of the PDF and EDF must be constructed of a minimum of 2 layers of 6 mil, clear/opaque/black/white fire retardant polyethylene sheeting and be securely attached to existing building components and/or an adequate temporary framework. A minimum of 2 layers of 6 mil poly shall also be used to cover the floor under the EDF and PDF units. Construct doors so that they overlap and secure to adjacent surfaces. Weigh sheets with layers of duct tape so that they close quickly after release. Put arrows on sheets so they show direction of travel and overlap. Construct a solid barrier on the occupied side(s) to protect the sheeting if the area adjacent to the abatement is occupied,.
2. **TEMPORARY FACILITIES TO THE PDF AND EDF.** The Competent Person shall provide temporary water service connections to the EDF and PDF. Water supply must be of adequate pressure and meet requirements of 29 CFR 1910.141(d)(3). Provide adequate temporary electric power with ground fault protection and overhead wiring in the EDF and PDF. Provide a sub-panel for all temporary power in the clean room. Provide adequate lighting to maintain a minimum of 50 foot candles in the EDF and PDF. Provide temporary heat to maintain 70 deg F throughout the PDF and EDF except the shower of the PDF shall be maintained at 75 deg F.
3. **PERSONNEL DECONTAMINATION FACILITY (PDF).** The Competent Person shall provide a PDF consisting of shower room which is contiguous to a clean room and equipment room. The PDF must be sized to accommodate the number of personnel scheduled for the project. The shower room, located in the center of the PDF, shall be fitted with as many portable showers as necessary to insure all employees can complete the entire decontamination procedure within 15 minutes. The PDF shall be constructed of opaque poly for privacy. The PDF shall be constructed to eliminate any parallel routes of egress without showering.
4. **Clean Room:** The clean room must be visually separated from the rest of the building to protect the privacy of personnel changing clothes. The clean room shall be constructed of at least 2 layers of 6 mil fire retardant poly to provide an air tight room. Provide a minimum of 2 flapped doorways 3 feet wide. One doorway shall be the entry from outside the PDF and the second doorway shall be to the shower room of the PDF. The floor of the clean room shall be maintained in a clean, dry condition. Shower overflow shall not be allowed into the clean room. All surfaces in the clean room shall be disinfected twice after each shift change. An adequate supply of disposable towels and disposable protective clothing shall be present in the clean room. Provide up to 2 storage lockers per person. A portable fire extinguisher, Type ABC, shall be provided in accordance with OSHA and NFPA Standard 10. All persons entering the regulated area shall remove all street clothing in the clean room and dress in disposable protective clothing and respiratory protection. Any person entering the clean room does so either from the outside with street clothing on or is coming from the shower room without clothing or with bathing suits and thoroughly washed. Ensure that females, who are required to enter the regulated area be ensured of their privacy throughout the entry/exit process by posting guards at both entry points to the PDF so no male can enter or exit the PDF during her stay in the PDF.
5. **Shower Room:** The Competent Person shall assure that the shower room is a completely water tight compartment to be used for the movement of all personnel from the clean room

to the equipment room and for the showering of all personnel going from the regulated area to the clean room. Each shower shall be constructed so water runs down the walls of the shower and into a drip pan. Install a freely draining smooth floor on top of the shower pan. The shower room shall be separated from the rest of the building and from the clean room and equipment room using air tight walls made from at least 2 layers of 6 mil fire retardant poly. The shower shall be equipped with a shower head and controls, hot and cold water, drainage, soap dish and continuous supply of soap, and shall be maintained in a sanitary condition throughout its use. The controls shall be arranged so an individual can shower without assistance. Provide a flexible hose shower head. Waste water will be pumped to a drain after being filtered through a minimum of a 100 micron sock in the shower drain; a 20 micron filter; and a final 5 micron filter. Filters will be changed a minimum of daily or more often as needed. Filter changes must be done in the shower to prevent loss of contaminated water. Hose down all shower surfaces after each shift and clean any debris from the shower pan. Residue is to be disposed of as asbestos waste.

6. **Equipment Room:** The Competent Person shall provide an equipment room which shall be an air tight compartment for the storage of work equipment, reusable footwear and for use as a change station for personnel exiting the regulated area. The equipment room shall be separated from the regulated area by a minimum 3 foot wide door made of three layers of 6 mil fire retardant poly. The equipment room shall be separated from the regulated area, the shower room and the rest of the building by air tight walls and ceiling constructed of a minimum of 2 layers of 6 mil fire retardant poly. If the airborne level of asbestos in the regulated area is expected to exceed 0.5 f/cc, add an additional air-lock between the equipment room and the regulated area. Damp wipe all surfaces of the equipment room after each shift change. Provide an additional loose layer of 6 mil fire retardant poly per shift change and remove this layer after each shift. Provide a temporary electrical sub-panel in this room to accommodate any power tools and equipment used in the regulated area.
7. **PDF construction shall be:** Clean room at the entrance followed by a shower room followed by an equipment room leading to the regulated area. Each doorway in the PDF is minimum of double flaps of 6 mil fire retardant poly.
8. **EQUIPMENT DECONTAMINATION FACILITY (EDF).** The Competent Person shall provide an EDF consisting of a wash room, and clean room for removal of equipment and material from the regulated area. Personnel shall not enter or exit the EDF except in the event of an emergency. Clean debris and residue in the EDF daily. All surfaces in the EDF shall be wiped/hosed down after each shift and all debris shall be cleaned from the shower pan. The EDF shall consist of the following:
 - a. **Wash Down Station:** Provide an enclosed shower unit in the regulated area just outside the Wash Room as an equipment bag and container cleaning station.
 - b. **Wash Room:** Provide a wash room for cleaning of bagged or containerized asbestos containing waste materials passed from the regulated area. Construct the wash room using materials selected and furnished by the Abatement Contractor and 2 layers of 6 mil fire retardant poly. Locate the wash room so that packaged materials, after being wiped clean, can be passed to the Holding Room. Doorways in the wash room shall be constructed of two layers of 6 mil fire retardant poly.
 - c. **Holding Room:** Provide a holding room as a drop location for bagged materials passed from the wash room. Construct the holding room using materials selected and furnished by the Abatement Contractor and 2 layers of 6 mil fire retardant poly. The holding room shall be located so that bagged material cannot be passed from

- the wash room to the clean room unless it goes through the holding room. Doorways in the holding room shall be constructed of two layers of 6 mil fire retardant poly.
- d. **Clean Room:** Provide a clean room to isolate the holding room from the building. Construct the clean room using materials selected and furnished by the Abatement Contractor and 2 layers of 6 mil fire retardant poly. The clean room shall be located so as to provide access to the holding room from the building. Doorways to the clean room shall be constructed of two layers of 6 mil fire retardant poly. When a negative pressure differential system is used, a rigid enclosure separation between the EDF clean room and the adjacent areas shall be provided.
 - e. **EDF construction shall be:** Wash Room leading to a Holding Room followed by a Clean Room leading to the building.
9. **EQUIPMENT DECONTAMINATION PROCEDURES.** At wash down station in the regulated area, thoroughly wet clean contaminated equipment and/or sealed polyethylene bags and pass into Wash Room after visual inspection. When passing anything into the Wash Room, close all doorways of the EDF, other than the doorway between the wash down station and the Wash Room. Keep all outside personnel clear of the EDF. Once inside the Wash Room, wet clean the equipment and/or bags. Close all doorways except the doorway between the Holding Room and the Clean Room. Workers from the Clean Room/Exterior shall enter the Holding Room and remove the decontaminated/cleaned equipment/bags for removal and disposal. These personnel shall wear full protective clothing and appropriate respirators. At no time shall personnel from the clean side be allowed to enter the Wash Room.
- D. **Access to Work Area:** Only approved personnel are authorized access to the work area. Once asbestos removal has started, access to the abatement work area by non-approved personnel is not permitted unless authorized by the AOC/SOHB representative, the Project CIH or the competent person. Access to work areas shall always be through decontamination areas. No employee shall be allowed to wear a respirator unless a physician has determined they are capable of doing so and has issued a written opinion for that person. All personnel wearing respirators shall have a current qualitative/quantitative fit test which was conducted in accordance with 29 CFR 1910.134 (f) and Appendix A. Fit tests shall be done for PAPRs with the blower off. The Competent Person shall assure that the positive/negative fit check is done each time the respirator is donned by an employee. Head coverings must cover respirator head straps. Any situation that prevents an effective face piece to face seal as evidenced by failure of a fit check shall preclude that person from wearing a respirator until resolution of the problem. The Project CIH shall review work area air samples and make adjustments for the type of respiratory protection required. All personnel in the regulated area shall not be allowed to eat, drink, smoke, chew tobacco or gum, apply cosmetics, or in any way interfere with the fit of their respirator. The following personnel shall have access to work area with the established respiratory protection:
- 1. The AOC/SOHB will provide a list of AOC employees, who are authorized access to the abatement area.
 - 2. OSHA Inspectors.
 - 3. EPA Inspectors.
 - 4. DC Inspectors.
 - 5. Approved Contractor personnel.

- E. **PROTECTIVE CLOTHING:** Provide boots, booties, hard hats, goggles, clothing, respirators and any other personal protective equipment as determined by conducting the hazard assessment required by OSHA in 29 CFR 1910.132 (d). Provide all personnel entering the regulated area with disposable full body coveralls, disposable head covering, and 18 inch boot coverings. The Competent Person shall ensure the integrity of personal protective equipment worn for the duration of the project. Provide plastic/rubber disposable gloves for hand protection. Cloth type gloves may be worn under plastic/rubber gloves, but cannot be used alone. Duct tape shall be used to secure all suit sleeves to wrists and to secure foot coverings at the ankle. The contractor shall provide daily, five sets of protective clothing for use by visiting authorized personnel.
- F. **REGULATED AREA ENTRY PROCEDURE:** Worker protection shall meet the most stringent requirement. The Competent Person shall ensure that each time workers enter the regulated area, they remove ALL street clothes in the clean room of the decontamination unit and put on new disposable coveralls, head coverings, a clean respirator, and then proceed through the shower room to the equipment room where they put on non-disposable required personal protective equipment.
- G. **DECONTAMINATION PROCEDURE - PAPR:** The Competent Person shall require all personnel to adhere to following decontamination procedures whenever they leave the regulated area.
1. **When exiting** the regulated area, remove disposable coveralls, and ALL other clothes, disposable head coverings, and foot coverings or boots in the equipment room.
 2. **Proceed to the** shower with respirator but without clothing or with bathing suit. Showering is MANDATORY. Care must be taken to follow reasonable procedures in removing the respirator to avoid damaging filters while showering. The following procedure is required as a minimum:
 - a. **Thoroughly wet** body including hair and face. If using a PAPR, hold blower and battery above head to keep filters dry.
 - b. **With respirator** still in place, thoroughly decontaminate body, hair, respirator face piece, and all other parts of the respirator except the blower and battery pack on a PAPR. Pay particular attention to cleaning the seal between the face and respirator face piece and under the respirator straps.
 - c. **Take a deep breath**, hold it and/or exhale slowly, completely wetting hair, face, and respirator. While still holding breath, remove the respirator and hold it away from the face before starting to breathe.
 3. **Carefully decontaminate** the face piece of the respirator inside and out. If using a PAPR, shut down using the following sequence: a) first cap inlets to filters; b) turn blower off to keep debris collected on the inlet side of the filter from dislodging and contaminating the outside of the unit; c) thoroughly decontaminate blower and hoses; d) decontaminate battery pack with a damp rag. (Note: THIS PROCEDURE IS NOT A SUBSTITUTE FOR RESPIRATOR CLEANING!).
 4. **Shower and** wash body completely with soap and water. Rinse thoroughly.
 5. **Rinse shower** room walls and floor to drain prior to exiting.
 6. **Proceed from** shower to clean room; dry off and change into street clothes or into new disposable work clothing.

H. **DECONTAMINATION PROCEDURE - AIR PURIFYING, NEGATIVE PRESSURE RESPIRATOR:** The Competent Person shall require all personnel use the following decontamination procedures, as a minimum, whenever leaving the regulated area with a full face, HEPA filtered respirator:

1. **When exiting** the regulated area, remove disposable coveralls and ALL other clothes, disposable head coverings, and disposable foot coverings or boots in the equipment room.
2. **Still wearing** the respirator and completely naked, proceed to the shower, which is mandatory. Care must be taken to follow reasonable procedures in removing the respirator and filters to avoid asbestos fibers while showering. The following procedure is required, as a minimum:
 - a. **Thoroughly wet** body from neck down. Wet hair as thoroughly as possible without wetting the respirator filter.
 - b. **Take a deep** breath, hold it and/or exhale slowly, complete wetting of hair, thoroughly wetting face, respirator and filter(s). While still holding breath, remove respirator and hold it away from face before starting to breathe.
3. **Dispose of** wetted filters from respirator.
4. **Carefully decontaminate** respirator face piece and respirator inside and out. (NOTE: THIS IS NOT A SUBSTITUTE FOR RESPIRATOR CLEANING!).
5. **Shower and wash** body completely with soap and water. Rinse thoroughly.
6. **Rinse shower** room walls and floor to drain prior to exiting.
7. **Proceed from** shower room to clean room and change into street clothes or into new disposable work clothes.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT:

A. **General Requirements (All Abatement Projects):** All equipment, including protective clothing and respirators, used in the execution of this contract and provided to visitors to the site, shall be approved by the Project CIH and shall comply with ASTM E 849 and with the applicable Federal, State, and local regulations. Respirators shall conform to the OSHA requirements in 29 CFR 1910.134 and 29 CFR 1926.1101, except that single use and disposable respirators shall not be used. Type of respirators required shall be as specified by the Project CIH. If any air sampling indicates levels above 0.1 fibers per cubic centimeter or "too dirty to count", powered air or supplied air (type C) respirators shall be required during actual removal operations.

Prior to the start of work, the abatement contractor shall provide and maintain a sufficient quantity of materials and equipment to assure continuous and efficient work throughout the duration of the project. Work shall not start unless the following items have been delivered to the site and the CIH has submitted verification to the AOC's representative to this effect.

1. **All materials** shall be delivered in their original package, container or bundle bearing the name of the manufacturer and the brand name (where applicable).
2. **Store all materials** subject to damage off the ground, away from wet or damp surfaces and under cover sufficient enough to prevent damage or contamination. Flammable

- materials cannot be stored inside buildings. Replacement materials shall be stored outside of the regulated/work area until abatement is completed.
3. **The Abatement Contractor** shall not block or hinder use of buildings by staff and visitors to the AOC in partially occupied buildings by placing materials/equipment in any unauthorized place.
 4. **The Competent Person** shall inspect for damaged, deteriorating or previously used materials. Such materials shall not be used and shall be removed from the work site and disposed of properly.
 5. **Polyethylene sheeting** for walls in the regulated area shall be a minimum of 6-mil thick. For floors and all other uses, sheeting of at least 6-mil thickness shall be used in widths selected to minimize the frequency of joints. Fire retardant poly shall be used throughout.
 6. **The method of** attaching polyethylene sheeting shall be agreed upon in advance by the Contractor and the AOC and selected to minimize damage to equipment and surfaces. Method of attachment may include any combination of moisture resistant duct tape or other waterproof tape, furring strips, spray glue, staples, nails, screws, lumber and plywood for enclosures or other effective procedures capable of sealing polyethylene to dissimilar finished or unfinished surfaces under both wet and dry conditions (including the use of amended water).
 7. **Polyethylene sheeting** utilized for personnel decontamination facility shall be opaque white or black in color, 6 mil fire retardant poly.
 8. Installation and plumbing hardware, showers, hoses, drain pans, sump pumps and waste water filtration system shall be provided.
 9. **An adequate number** of negative pressure units capable of providing a minimum of 4 air changes per hour in the regulated area while maintaining minus 0.02 inch water column shall be used. Two (2) additional negative pressure units shall be available to replace any malfunctioning unit.
 10. **An adequate number** of HEPA vacuums, air sampling pumps and loaded filter cassettes, supplied air system, if used, providing Grade D breathing air with respirators and air lines sufficient for personnel, pressure differential gauge and recording capability shall be provided.
 11. **An adequate number** of scrapers, sprayers, nylon brushes, brooms, disposable mops, rags, sponges, staple guns, shovels, ladders and scaffolding of suitable height and length as well as meeting OSHA requirements, fall protection devices, water hose to reach all areas in the regulated area, airless spray equipment, and any other tools, materials or equipment required to conduct the abatement project. All electrically operated hand tools, equipment, electric cords shall be equipped with ground-fault circuit protection.
 12. **Special protection** for objects in the regulated area shall be detailed (e.g., plywood over carpeting or hardwood floors to prevent damage from scaffolds and falling material).
 13. **6 mil disposal** bags for asbestos waste shall be pre-printed with labels and markings as required by OSHA, EPA.
 14. **Impermeable asbestos** disposal drums shall be metal or fiberboard with locking ring tops with required OSHA, EPA and DOT labels and markings.
 15. **The AOC shall be** provided a copy of the MSDS as required for all hazardous chemicals including encapsulants under OSHA 29 CFR 1910.1200 - Hazard Communication. Methylene chloride shall not be used with any spray adhesive or other product.
 16. **DANGER signs**, as many and as required by OSHA 29 CFR 1926.1101(k)(7), shall be provided and placed by the Competent Person. All other posters and notices required by Federal and State regulations shall be posted in the Clean Room.
 17. **Adequate respirators**, disposable protective clothing, hard hats, goggles, gloves and footwear for the project and number of personnel/shifts shall be provided. All personal

protective equipment issued must be based on a hazard assessment conducted under 29 CFR 1910.132(d).

- B. **NEGATIVE PRESSURE FILTRATION SYSTEM:** The Abatement Contractor shall provide enough HEPA negative air machines to completely exchange the regulated area air volume 4 actual times per hour. The Competent Person shall determine the number of units needed for each regulated area by dividing the cubic feet in the regulated area by 15 and then dividing that result by the actual cubic feet per minute (cfm) for each unit to determine the number of units needed to effect 4 air changes per hour and maintain -.02 inches of negative pressure. Provide a standby units in the event of machine failure and/or emergency in an adjacent area.
- C. **NEGATIVE AIR MACHINES (HEPA UNITS)**
1. **Negative Air Machine Cabinet:** The cabinet shall be constructed of steel or other durable material capable of withstanding potential damage from rough handling and transportation. The width of the cabinet shall be less than 30 inches in order to fit in standard doorways. The cabinet must be factory sealed to prevent asbestos fibers from being released during use, transport, or maintenance. Any access to and replacement of filters shall be from the inlet end. The unit must be on casters or wheels.
 2. **Negative Air Machine Fan:** The fan rating must provide the air-moving capacity under actual operating conditions. Manufacturer's typically use "free-air" (no resistance) conditions when rating fans. The fan must be a centrifugal type fan.
 3. **Negative Air Machine Final Filter:** The final filter shall be a HEPA filter. The filter media must be completely sealed on all edges within a structurally rigid frame. The filter shall align with a continuous flexible gasket material in the negative air machine housing to form an air tight seal. Each HEPA filter shall be individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 mm dioctylphthalate (DOP) particles. Testing shall have been done in accordance with Military Standard MIL-STD-282 and Army Instruction Manual 136-300-175A. Each filter must bear a UL586 label to indicate ability to perform under specified conditions. Each filter shall be marked with the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.
 4. **Negative Air Machine Pre-filters:** The pre-filters, which protect the final HEPA filter by removing larger particles, are required to prolong the operating life of the HEPA filter. Two stages of pre-filtration are required. A first stage pre-filter shall be a low efficiency type for particles 10 microns or larger. A second stage pre-filter shall have a medium efficiency effective for particles down to 5 microns or larger. Pre-filters shall be installed either on or in the intake grid of the unit and held in place with a special housing or clamps.
 5. **Negative Air Machine Instrumentation:** Each unit must be equipped with a gauge to measure the pressure drop across the filters and to indicate when filters have become loaded and need to be changed. A table indicating the cfm for various pressure readings on the gauge shall be affixed near the gauge for reference or the reading shall indicate at what point the filters shall be changed, noting cfm delivery at that point. The unit must have an elapsed time meter to show total hours of operation.
 6. **Negative Air Machine Safety and Warning Devices:** An electrical/ mechanical lockout must be provide to prevent the fan from being operated without a HEPA filter. Units must be equipped with an automatic shutdown device to stop the fan in the event of a rupture in the HEPA filter or blockage in the discharge of the fan. Warning lights are required to

indicate normal operation; too high a pressure drop across filters; or too low of a pressure drop across filters.

7. **Negative Air Machine Electrical:** All electrical components shall be approved by the National Electrical Manufacturer's Association (NEMA) and Underwriter's Laboratories (UL). Each unit must be provided with overload protection and the motor, fan, fan housing, and cabinet must be grounded.

D. **HEPA Vacuums**

1. **All HEPA vacuums:** All electrical components shall be approved by the National Electrical Manufacturer's Association (NEMA) and Underwriter's Laboratories (UL). Each unit must be provided with overload protection and the motor and housing must be grounded.
- B. **Testing of the HEPA Filtered vacuum HEPA filter:** The vacuum filter shall be a HEPA filter. The filter media must be completely sealed on all edges within a structurally rigid frame. The filter shall align with a continuous flexible gasket material in the HEPA vacuum housing to form an air tight seal. Each HEPA filtered vacuum shall be individually tested and certified to have an efficiency of not less than 99.97 percent when challenged with 0.3 mm dioctylphthalate (DOP) particles. Testing shall have been done in accordance with Military Standard MIL-STD-282 and Army Instruction Manual 136-300-175A. Each filter must bear a UL586 label to indicate ability to perform under specified conditions. Each filter shall be marked with the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.

2.2 **ENCAPSULATING MATERIALS:**

- A. **TYPES OF Encapsulant:** The following four types of encapsulant must comply with performance requirements as stated in "Performance Requirements":
 1. Removal encapsulant - used as a wetting agent to remove ACM.
 2. Bridging encapsulant - provides a tough, durable coating on ACM.
 3. Penetrating encapsulant - penetrates/encapsulates ACM at least 13 mm (½").
 4. Lock down encapsulant - seals microscopic fibers on surfaces after ACM removal.
- B. **PERFORMANCE REQUIREMENTS:** Encapsulant shall meet the latest requirements of EPA; shall not contain toxic or hazardous substances; or solvents; and shall comply with the following performance requirements:
 1. General Requirements for all encapsulants:
 - a. ASTM E84: Flame spread of 25; smoke emission of 50.
 - b. University of Pittsburgh Protocol: Combustion Toxicity; zero mortality.
 - c. ASTM C732: Accelerated Aging Test; Life Expectancy 20 years.
 - d. ASTM E96 Permeability: Minimum of 0.4 perms.
 2. Bridging/Penetrating Encapsulant:
 - a. ASTM E736 Cohesion/Adhesion Test: 24 kPa (50 lbs/ft2).

- b. ASTM E119 Fire Resistance: 3 hours (Classified by UL for use on fibrous or cementitious fireproofing).
 - c. ASTM D2794 Gardner Impact Test; Impact Resistance: Minimum 11.5 kg-mm (43 in/lb).
 - d. ASTM D522 Mandrel Bend Test; Flexibility: No rupture or cracking.
3. Lock down Encapsulant:
- a. ASTM E119 Fire resistance: 3 hours (tested with fireproofing over encapsulant applied directly to steel member).
 - b. ASTM E736 Bond Strength: 48 kPa (100 lbs/sq. ft.) (test compatibility with cementitious and fibrous fireproofing).
 - c. In certain situations, encapsulant may have to be applied to hot pipes or equipment. The encapsulant shall be able to withstand high temperatures without cracking or off-gassing any noxious vapors during application.
4. **The Project CIH** shall review and recommend approval for all encapsulating materials used under this contract, prior to submitting them to Architect for review, and prior to their use on site. Encapsulating materials (sealants) shall meet the latest requirements of the Environmental Protection Agency (EPA) and shall possess the characteristics outlined in paragraphs “Types of Encapsulant” and “Performance Requirements” above and the following:
- a. **Adherence.** The sealant eliminates fiber dispersal by adhering to the fibrous substrate with sufficient penetration to prevent separation of the sealant from the sprayed asbestos material.
 - b. **Impact Penetration.** It withstands impact and penetration, protects the enclosed sprayed asbestos material, and it must not cause separation of sprayed asbestos material from its original substrate.
 - c. **Flexibility.** It possesses enough flexibility to accommodate atmospheric changes and settling of the structure over time.
 - d. **Resistance to Smoke and Flame.** It shall have high flame retardant characteristics and a low toxic fume and smoke emission rating.
 - e. **Ease of Application.** It must be easily applied with relative insensitivity to errors in preparation or application. Ease of repair by routine maintenance personnel is desirable.
 - f. **Toxicity.** The sealant must be neither noxious nor toxic to application workers and structure users thereafter.
 - g. **Permeability.** It should have some permeability to water vapor to prevent condensation accumulation be resistant to common cleaning agents.
 - h. **Stability.** It shall have suitable stability to weathering and aging.
- C **Guarantee.** Guarantee encapsulating materials in accordance with Guarantee clause of the General Conditions.

PART 3 - EXECUTION

3.1 PREPARATION:

- A. **ISOLATE THE WORK AREA.** Place all tools, scaffolding, materials and equipment needed for working in the regulated area prior to erecting any plastic sheeting. Remove all uncontaminated removable furniture, equipment, and supplies from the regulated area before commencing work, or completely cover with two layers of 6-mil fire retardant poly sheeting and secure with duct tape. Lock out and tag out any HVAC systems in the regulated area. Seal off the perimeter to the regulated area to completely isolate the regulated area from adjacent spaces. All surfaces in the regulated area must be covered to prevent contamination and to facilitate clean-up. Should adjacent areas become contaminated, immediately stop work and clean up the contamination at no additional cost to the Government. Provide firestopping and identify all fire barrier penetrations.
- B. **CRITICAL BARRIERS:** Completely separate the regulated area from adjacent areas using fire retardant poly at least 6 mils thick and duct tape. Individually seal with two layers of 6 mil poly and duct tape all HVAC openings into the regulated area. Individually seal all lighting fixtures, clocks, doors, windows, convectors, speakers, or any other objects or openings in the regulated area. Use care with hot/warm surfaces.
- C. **PRIMARY BARRIERS:** Clean all furniture, equipment, etc., with HEPA vacuum and wet cleaning prior to being moved or covered. Clean all surfaces in the regulated area with the HEPA vacuum and wet wiping before installing poly sheeting. Cover the regulated area with two layers of 6 mil fire retardant poly on the floors and two layers of 6 mil fire retardant poly on the walls, unless otherwise directed in writing by the AOC's representative. Floor layers must form a right angle with the wall and turn up the wall at least 300 mm (12 inches). Seams must overlap at least 1800 mm (6 feet) and must be spray glued and taped. Install sheeting so that layers can be removed independently from each other. Mechanically support and seal with duct tape and glue all wall layers.
1. **Stairs and Ramps:** If stairs and ramps are covered with 6 mil plastic, two layers must be used. Provide 19 mm (3/4") exterior grade plywood treads held in place with duct tape/glue on the plastic. Do not cover rungs or rails with any isolation materials.
 2. **Carpeted Floors:** Carpeting shall be covered with three layers of 6 mil poly. Corrugated cardboard sheets or a ridge material approved by the AOC must be placed between the top and middle layers of the poly.
 3. **Elevators:** Any elevator walls, floor, and ceiling must be covered with 2 layers of 6 mil fire retardant poly. The elevator door must be in a positively pressurized area outside the clean room of the Decontamination unit. At completion of the abatement work, the elevator must be cleaned as per this section.
- D. **SECONDARY BARRIERS:** A loose layer of 6 mil poly shall be used as a drop cloth to protect the primary layers from debris generated during the abatement. This layer shall be replaced at the end of each work shift or as needed during the work.
- E. **EXTENSION OF THE REGULATED AREA:** If the enclosure of the regulated area is breached in any way that could allow contamination to occur, the affected area shall be included in the regulated area and constructed as per this section. If the affected area cannot be added to the regulated area, decontamination measures must be started immediately and continue until air monitoring indicates levels outlined in "Asbestos Control Area" for outside the work area, above, are met.

- F. **FIRESTOP REQUIREMENTS:** Through penetrations caused by cables, cable trays, pipes, sleeves must be firestopped with a fire-rated firestop system providing an air tight seal. Firestop materials that are not equal to the wall or ceiling penetrated shall be brought to the attention of the AOC Fire Protection Division. The contractor shall list all areas of penetration, the type of sealant used, and whether or not the location is fire rated. Any discovery of penetrations during abatement process shall immediately be brought to the attention of the AOC Fire Protection Division. All walls, floors and ceilings are considered fire rated unless otherwise determined by the AOC Fire Protection Division. Any visible openings whether or not caused by a penetration shall be reported by the contractor to the AOC Fire Protection Division for a sealant system determination. For firestops, contact the AOC Fire Protection Division for the opening size, penetration, and fire rating requirements.
- G. **PRESSURE DIFFERENTIAL:** The fully operational negative air system within the regulated area shall continuously maintain a pressure differential of minus 0.02 inch water column. Before any disturbance of any asbestos material, this shall be demonstrated to the AOC by use of a pressure differential meter/manometer as required by OSHA 29 CFR 1926.1101(e)(5)(i). The Competent Person shall be responsible for providing and maintaining the negative pressure and air changes as required by OSHA and this specification. In any AOC-occupied building or facility, the abatement contractor is responsible for providing twenty four (24) hour, seven (7) days a week observation of the negative pressure air system once asbestos removal starts. This observation shall continue until final air clearance criteria are met. The suspension of this requirement can only be approved by the AOC/SOHB. Instructions to be followed during the observations will be outlined during the CIH pre-abatement coordination meeting specified in Part 1 above.
- H. **MONITORING:** The pressure differential shall be continuously monitored and recorded between the regulated area and the area outside the regulated area with a monitoring device that incorporates a strip chart recorder. The strip chart recorder shall become part of the project log and shall indicate at least minus 0.02 inch water column for the duration of the project.
- I. **SUPPLEMENTAL MAKE-UP AIR INLETS:** Provide, as needed for proper air flow in the regulated area, in a location approved by the Project CIH, by making openings in the plastic sheeting to allow outside air to flow into the regulated area. Auxiliary makeup air inlets must be located as far from the negative air machines as possible, off the floor near the ceiling, and away from the barriers that separate the regulated area from the occupied clean areas. Cover the inlets with weighted flaps which will seal in the event of failure of the negative pressure system. The flap must be sprayed with adhesive to assure sealing if it closes.
- J. **TESTING THE SYSTEM:** The negative pressure system must be tested before any ACM is disturbed in any way. After the regulated area has been completely prepared, the decontamination units set up, and the negative air machines installed, start the units up one at a time. Demonstrate the operation and testing of the negative pressure system to the AOC/SOHB using smoke tubes and a negative pressure gauge to document the negative pressure and air flow. Testing must also be done at the start of each work shift.
- K. **DEMONSTRATION OF THE NEGATIVE AIR PRESSURE SYSTEM:** The demonstration of the operation of the negative pressure system to the AOC/SOHB shall include, but not be limited to, the following:
1. **Plastic barriers** and sheeting move lightly in toward the regulated area.

2. **Curtains of** the decontamination units move in toward regulated area.
 3. **There is a** noticeable movement of air through the decontamination units. Use the smoke tube to demonstrate air movement from the clean room to the shower room to the equipment to the regulated area.
 4. **Use smoke tubes** to demonstrate air is moving air across all areas in which work is to be done. Use a differential pressure gauge to indicate a negative pressure of at least 5.0 Pa (minus 0.02 inch) across every barrier separating the regulated area from the rest of the building. Modify the system as necessary to meet the above requirements.
- L. **USE OF THE NEGATIVE PRESSURE SYSTEM DURING ABATEMENT OPERATIONS:**
1. **Start units before** beginning any disturbance of ACM occurs. After work begins, the units shall run continuously, maintaining a minimum of 4 actual air changes per hour at a negative pressure differential of 5.0 Pa (minus 0.02 inch) water column, for the duration of the work until a final visual clearance and final air clearance has been completed.
 2. **The negative air** machines shall not be shut down at any time during the duration of the project unless it has been authorized by the AOC/SOHB.
 3. **Abatement work shall** begin at a location farthest from the units and proceed toward them. If an electric failure occurs, the Competent Person shall stop all abatement work and immediately begin wetting all exposed asbestos materials for the duration of the power outage. Abatement work shall not resume until power is restored and all necessary units are operating properly again.
 4. **The negative air** machines shall continue to run after all work is completed and until a final visual clearance and a final air clearance has been completed for that regulated area.
- M. **DISMANTLING THE SYSTEM:** After completion of the final visual and final air clearance has been obtained, the units may be shut down. The units shall have been completely decontaminated, all pre-filters removed and disposed of as asbestos waste, and the unit inlet and outlet sealed with 2 layers of 6 mil poly.
- N. **Before the work is begun,** clean all removable items and equipment. Remove them from the work area and store as directed.
- O. **Cover all non-removable items** and equipment in the work area with six (6) mil flame retardant plastic sheeting taped securely in place.
- P. **When specified,** remove all heating, ventilation, and air conditioning system filters, pack them in sealable double approved disposal bags or containers for disposal in the approved waste disposal site and replace them with new filters upon completion of abatement. Openings created by the removal of HVAC filters shall be sealed using 6 mil plastic sheeting taped securely in place, prior to start of work.
- Q. **Post warning signs:** on the primary containment as required by 29 CFR 1910.1001, 29 CFR 1926.1101, ASTM E 849, as directed by District of Columbia Title 20 DCMR, Section 800 "Control of Asbestos" and as directed by the Architect.
- R. **Obtain Approval of the Finished Primary Containment** from the Project CIH, prior to starting any actual asbestos removal work.

3.2 WORK PROCEDURE:

- A. **General Procedures:** The enclosed work areas shall be defined as an asbestos regulated area and all asbestos worker protection and work practices not addressed in this specification shall be performed in conformance with the general safety and health provisions of 29 CFR 1910.1001, 29 CFR 1910.20, and the construction industry standard for asbestos, 29 CFR 1926.1101, respectively. The Project CIH shall review work area air samples and make adjustments for the type of respiratory protection required. For asbestos abatement work, use general work practices, work practices for removal, and work practices for encapsulation as specified in 29 CFR 1926.1101. If a conflict arises, the more stringent application shall apply until a determination is made by the Architect.
- B. **PROTECTIVE CLOTHING:** Provide boots, booties, hard hats, goggles, clothing, respirators and any other personal protective equipment as determined by conducting the hazard assessment required by OSHA at 29 CFR 1910.132 (d). Provide all personnel entering the regulated area with disposable full body coveralls, disposable head covering, and 18 inch boot coverings. The Competent Person shall ensure the integrity of personal protective equipment worn for the duration of the project. Provide plastic/rubber disposable gloves for hand protection. Cloth type gloves may be worn under plastic/rubber gloves, but cannot be used alone. Duct tape shall be used to secure all suit sleeves to wrists and to secure foot coverings at the ankle.
- C. **Local Exhaust System:** Provide a local HEPA filtered exhaust system in the asbestos control area. The local HEPA filtered exhaust system shall exhaust to the outside of the building. Local HEPA filtered exhaust equipment must be sufficient to maintain a negative air pressure of 0.02 inch of water anywhere in the asbestos control area. In no case shall the building ventilation system be used as the local exhaust system for asbestos control. Filtering in vacuums and exhaust equipment shall be HEPA filtered equipped and conform to ANSI Z9.2; HEPA filters shall be used in all vacuums and exhaust equipment. NOTE: Approval from the AOC/SOHB is required for all local HEPA filtered exhaust systems that cannot be exhausted directly outside the building. To exhaust an HEPA filtered local exhaust system from an asbestos control area to the inside an AOC building will require the approval of the AOC/SOHB. The HEPA filtered exhaust equipment shall also pass a Dioctylphthalate (DOP) test for HEPA filtered equipment each time a containment that is to be exhausted into the building is erected.
- D. **CONTROLLING ACCESS TO THE REGULATED AREA:** Access to the regulated area is allowed only through the personnel decontamination facility (PDF). All other means of access shall be eliminated and OSHA Danger asbestos signs posted as required by OSHA. If the regulated area is adjacent to or within view of an occupied area, provide a visual barrier of opaque fire retardant poly sheeting at least 6 mils thick to prevent building occupant observation. If the adjacent area is accessible to the public, the barrier must be solid and capable of withstanding the negative pressure.
- E. **Coordination of Work of all Trades:** Coordinate the work of all trades to assure that their work is performed in accordance with the applicable regulations and that the asbestos control limits are maintained at all times both inside and outside the asbestos work area.

3.3 WET REMOVAL OF ACM OTHER THAN AMOSITE ASBESTOS

- A. **Adequately and** thoroughly wet the ACM to be removed prior to removal to reduce/prevent fiber release to the air. Adequate time must be allowed for the amended water to saturate the ACM. Abatement personnel must not disturb dry ACM. Use a fine spray of amended water or removal encapsulant. Saturate the material sufficiently to wet to the substrate without causing excessive dripping. The material must be sprayed repeatedly/continuously during the removal process in order to maintain adequately wet conditions. Removal encapsulant must be applied in accordance with the manufacturer's written instructions. Perforate or carefully separate, using wet methods, any outer covering that is painted or jacketed in order to allow penetration and wetting of the material. Where necessary, carefully remove covering while wetting to minimize fiber release. (Note: In no event shall dry removal occur except when a permit is granted for unavoidable safety hazards.)
- B. **If ACM does** not wet well with amended water due to coating or jacketing, remove as follows:
1. **Mist work area** continuously with amended water whenever necessary to reduce airborne fiber levels.
 2. **Remove saturated** ACM in small sections. Do not allow material to dry out. As material is removed, place the material, while still wet, into 6-mil poly asbestos waste bags. Twist tightly the bag neck, bend over (gooseneck) and seal with a minimum of three tight wraps of duct tape. Clean/decontaminate the outside of any residue and move to wash down station adjacent to EDF.
 3. **Fireproofing or Architectural Finish on Scratch Coat:** Spray with a fine mist of amended water or removal encapsulant. Allow time for saturation to the substrate. Do not over saturate causing excess dripping. Scrape material from substrate. Remove material in manageable quantities and control falling to staging or floor. If the falling distance is over 20 feet (6M), use a drop chute to contain material through descent. Remove residue remaining on the scratch coat after scraping is done using a stiff bristle hand brush. If a removal encapsulant is used, remove residue completely before the encapsulant dries. Re-wet the substrate as needed to prevent drying before the residue is removed.
 4. **Fireproofing or Architectural Finish on Wire Lath:** Spray with a fine mist of amended water or removal encapsulant. Allow time to completely saturate the material. Do not over saturate causing excess dripping. If the surface has been painted or otherwise coated, cut small holes as needed and apply amended water or removal encapsulant from above. Cut saturated wire lath into 2 by 6 feet (50 by 150 mm) sections and cut hanger wires. Roll up complete with ACM, cover in burlap and hand place in disposal bag. Do not drop to floor. After removal of lath/ACM, remove any over spray on decking and structure using stiff bristle nylon brushes. Depending on hardness of over spray, scrapers may be needed for removal.
 5. **Pipe Insulation:** Remove the outer layer of wrap while spraying with amended water in order to saturate the ACM. Spray ACM with a fine mist of amended water or removal encapsulant. Allow time to saturate the material to the substrate. Cut bands holding pre-formed pipe insulation sections. Slit jacketing at the seams, remove and hand place in a disposal bag. Do not allow dropping to the floor. Remove molded fitting insulation/mud in large pieces and hand place in a disposal bag. Remove any residue on pipe or fitting with a stiff bristle nylon brush. In locations where pipe fitting insulation is removed from fibrous glass or other non-asbestos insulated straight runs of pipe, remove fibrous material at least 6 inches from the point it contacts the ACM.

3.4 WET REMOVAL OF AMOSITE ASBESTOS

- A. **Amosite ACM** will require local exhaust ventilation and collection, as described below, in addition to wet removal. Provide specific description /locations/drawings.
- B. **Provide local** exhaust ventilation and collection systems to assure collection of amosite fibers at the point of generation. A 12-inch flexible rigid non-collapsing duct shall be located no more than 2 feet from any scraping/brushing activity. Primary filters must be replaced every 30 minutes on the negative air machines. Each scraping/brushing activity must have a negative air machine devoted to it. For pre-molded pipe insulation or cutting wire lathe, attach a 4-foot square flared end piece on the intake of the duct. Support the duct horizontally at a point 2 feet below the work to effect capture. One person in the crew shall be assigned to operate the duct collection system on a continual basis.
- C. **Amosite asbestos** does not wet well with amended water. Submit full information and documentation on the wetting agent proposed prior to start for review by the AOC/SOHB representative. Insure that the material is worked on in small sections and is thoroughly and continuously wetted. Package immediately after removal while wet. Remove as required.

3.5 REMOVAL OF ACM/DIRT FLOORS AND OTHER SPECIAL PROCEDURES

A. MAJOR ABATEMENT ON DIRT FLOORS:

When working on dirt floors, pick up all chunks of visible asbestos debris using wet methods if possible after set-up of PDF, EDF, negative air systems as required. Perform work and decontaminate/clean-up; perform lock-down as needed and complete work as required under these specifications. The asbestos contaminated soil (ACS) shall be removed, encapsulated, and enclosed.

- 1. **Remove ACS** to a minimum depth of 2 inches. After wetting to minimize dust, shovel dirt into disposal bags. The Project CIH shall closely monitor work conditions and take appropriate action to protect workers from exposure to asbestos and heat stress. The minimum number of air changes per hour shall be six using negative air machines.
- 2. **The Contractor** has the option to encapsulate soil. A test area of a minimum of 100 sq. ft. must be performed to determine feasibility. Provide a written proposal for encapsulation to the AOC/SOHB representative with test results; recommendation from the manufacturer; a guarantee of performance for 10 years; and any limitations of application. The AOC reserves the right to accept or reject the application proposal with no effect on the contract. If approved, the application and supervision must be done by persons certified by the manufacturer as trained and experienced personnel as evidenced by documentation of such.
- 3. **Enclosure of ACM** using a concrete layer of 2 inches over the entire surface may also be done. Thoroughly dampen soil first before pouring concrete. Personnel shall be proficient in concrete laying as well as asbestos trained.

3.6 NEGATIVE PRESSURE GLOVEBAG METHOD OF ASBESTOS REMOVAL:

- A. **General:** The glovebag method may be used where the total length of asbestos insulation to be removed in a pipe segment between existing ACM insulation to remain does not exceed 3 feet. The glovebag method may not be used for steam, steam condensate return and heating water piping unless the system is inactive or the surface temperature of the pipe is below 140 degrees

- F. Respiratory protection and disposable clothing are required. Discard clothing in accordance with paragraph Disposal of Friable Asbestos.
- B. **Procedure:** Install the glovebag and negative pressure equipment following all procedures outlined in OSHA's 29 CFR 1926.1101.
- C. **Removal and Disposal of Glovebags:** Removal of glovebags shall be in accordance with 29 CFR 1926.1101. Dispose of glovebags, material, and contaminated equipment in accordance with paragraph Disposal of Friable Asbestos.

3.7 MINI-ENCLOSURE SYSTEM

- A. **General:** A mini-enclosure system is defined as any portable system capable of performing small scale short duration projects equipped with all aspects of a full containment. This includes, but is not limited to the following components: negative air pressure, shower or water-tank facilities, HEPA vacuums, and polyethylene sheeting barriers.
- B. **A mini-enclosure** system may be used when minor disturbances to asbestos-containing ceiling, wall, or floor materials are required and when the ceiling, wall or floor surface is flat and capable of obtaining the required air seal. Mini-enclosures shall not exceed a projected floor area of thirty square feet. This system applies to the following activities:
1. Removal of non-asbestos lay-in ceiling panels with asbestos debris on the top ceiling panel surface.
 2. Removal of asbestos-containing lay-in or spline ceiling panels.
 3. Removal of light fixtures in plaster ceilings to access ceiling spaces.
 4. Removing or installation of light fixtures.
 5. Cutting or channeling of walls and plaster ceilings (e.g., hanging conduit or other such projects necessitating disturbance to the asbestos surfaces).
 6. Removal of asbestos-containing floor tile and mastic.
 7. Removal of asbestos-containing duct mastic.
 8. Removal of transite asbestos panel boards, baseboard and mastic.
- C. **Procedure:** Utilize a negative pressure mini-enclosure system for this work. This process will follow all procedures outlined in OSHA's 29 CFR 1926.1101. The following steps are to be when performing this work:
1. **Preliminary setup:** Seal all critical barriers (e.g., doors, windows, vents) in the work area. Place OSHA warning signs as necessary facing outward on perimeter doors. Pre-clean area beneath work by wet wiping and HEPA vacuuming. Place drop cloth on surfaces below work and seal it to floor with duct tape. Disconnect, as necessary, the electric and lock out power to breaker. Check and pressurize water within holding tanks and nozzles on the enclosure system. Provide ground-fault protection for other outlets.
 2. **Preliminary Inspection:** Project CIH will inspect area prior to commencement of work. Verify that all preliminary set-up procedures, as stated above, have been completed. Verify that all filters are properly positioned in HEPA vacuums and negative air machines (NAM). Verify all equipment is operating properly. Review, with contractor, the CIH Approved Plan of Action specified in "Submittals" in Part 1 of this specification.
 3. **Work Procedures:** Workers will don two (2) suits, gloves and appropriate respiratory protection in accordance with 29 CFR 1910.134. Workers will activate the negative air

system associated with the mini-enclosure. The workers, in accordance with all applicable Federal and District of Columbia regulations, will perform necessary removal and/or encapsulation of asbestos containing material. Non-asbestos containing material to be salvaged, as stated in scheduled work plan, shall be properly decontaminated prior to its removal from the work area.

4. **Waste Removal:** All asbestos containing materials shall be sufficiently wet and placed in bags, drums, or other approved and labeled disposal containers. All waste disposal containers shall be properly decontaminated. Disposal shall be performed as specified in "Cleanup and Disposal" below.
5. **Decontamination Procedures:** Thoroughly clean via wet wiping and HEPA vacuuming all surfaces within the mini-enclosure so that no visible residue remains. Workers will decontaminate by HEPA vacuuming the outer protective suit. Workers will reinspect the area for visible residue, clean as necessary, then decontaminate the inner protective suit. Once entire area is completely decontaminated, the workers may remove and properly dispose of the second suit and shower. Once showered, the worker may exit the mini-enclosure system and remove respiratory protection. If a remote shower facility is utilized, the workers shall follow the same procedure as stated above, however, the second suit shall be removed upon entering the remote shower facility.
6. **Final Visual Inspection:** Once all work for the specified area has been completed and workers have exited the mini-enclosure system, the Project CIH will enter the enclosure system to perform a final visual inspection to insure that there is no visible residue and all work has been completed.
7. **Final Air Sample Clearance:** The following final clearance sampling procedure shall be followed for mini-enclosure systems. If the work area passes final visual inspection, a final clearance air sample shall be conducted by the Project CIH inside the mini-enclosure system. The clearance air sample will have a total volume of at least 1200 liters of air and shall be analyzed by Phase Contrast Microscopy (PCM) following the NIOSH 7400 method A rules. This sample shall be read on-site by the Project CIH. Upon failure of the clearance sample by PCM analysis, another sample shall be conducted and analyzed by Transmission Electron Microscopy (TEM) and submitted to an accredited laboratory with all extra cleaning and sampling at no cost to the Government.
8. **Post-Clearance:** Upon clearance of the mini-enclosure system both by visual and air sampling, the system can be used at another location, leaving the previous work area non-hazardous for other trades to perform routine work.

3.8 SHROUDED DRILL WITH INTEGRATED HEPA VACUUM SYSTEM

- A. **General:** A shrouded drill with integrated HEPA vacuum system is a commercially-available shrouded drill designed to prevent the release of cuttings into the environment. The shroud is designed to allow an approved and certified HEPA vacuum to be attached to the tool. All drill cuttings, dust, and released fibers shall be drawn through the shroud and into the HEPA vacuum system. Placing the inlet hose of a HEPA vacuum in the vicinity of the drilling operation is not an approved alternative to the use of the shrouded drill with integrated HEPA vacuum system.
- B. **A shrouded drill with integrated HEPA system** may be used when the drilling of holes less than one (1) inch in diameter holes in asbestos-containing ceiling, wall, or floor materials are required and when the ceiling, wall or floor surface is flat and capable of obtaining the required air seal.

3.9 QUALITY CONTROL:

- A. **Monitoring:** Monitoring of airborne concentrations of asbestos shall be in accordance with 29 CFR 1910.1001, 29 CFR 1926.1101, ASTM E 849, and this specification.
1. **Monitor the airborne concentration** of asbestos before constructing the containment work area, to obtain a baseline fiber concentration in the affected areas. If the baseline air monitoring results, exceeds 0.01 f/cc immediately notify the AOC/SOHB.
 2. **Monitor continuously** during the course of the work inside the asbestos work area and other areas as directed by the Project CIH's air sampling strategy. In addition to that sampling strategy, and at a minimum, perform daily monitoring outside the entrance to the asbestos work area, along each perimeter wall of the containment and at the exhaust opening of the local exhaust system. If monitoring shows airborne concentrations greater than the asbestos control limits permitted by this specification, immediately stop all work, and notify the AOC/SOHB. Work shall not be restarted without approval of the Project CIH and the AOC/SOHB.
 3. **In addition,** monitor the airborne concentrations of asbestos after final cleanup and removal of the enclosure of the asbestos control area in accordance with paragraph "Final Cleanup and Removal of Enclosures."
- B. **Site Inspection and Stop Work Orders:** While performing asbestos abatement work, the Contractor shall be subject to on site inspection by agency officials or agency contracted inspection services. Work shall also be subject to inspection by OSHA and EPA inspectors and/or local building or health officials. If found to be in violation by one of these officials, the Contractor shall cease all work immediately. Until the violation is resolved, standby time required to resolve the violation shall be at the Contractor's expense. Five complete sets of equipment (such as respirators and disposable clothing) required for entry to the asbestos control area shall be available for inspectors use.

3.10 CLEANUP AND DISPOSAL:

- A. **Permits and Notifications:** Secure necessary permits in conjunction with asbestos removal, hauling and disposition and provide timely notification of such actions, as may be required by Federal, state, regional, and local authorities. When required by regulation, ensure that notification to the Regional Office of the EPA and the responsible agency for the District of Columbia is made,; provide copies of the notification to the AOC/SOHB 20 days prior to the commencement of the work. Provide notification in accordance with 40 CFR 61.22(d)(1).
- B. **Housekeeping:** Essential parts of asbestos dust control are housekeeping and cleanup procedures. All surfaces throughout the containment work area shall be maintained free of accumulations of asbestos fibers to prevent further dispersion. Give meticulous attention to restricting the spread of dust and debris, keep waste from being distributed over the general area. Use approved industrial vacuum cleaners with a HEPA filters to collect dust and small scrap. The use of compressed air is forbidden. Post appropriate asbestos hazard warning signs. At the end of each work shift, the containment area shall be cleaned. Equip personnel engaged in cleaning up asbestos scrap and waste with necessary respiratory equipment and protective clothing.
- C. **Disposal of Friable Asbestos:** Collect and dispose of friable asbestos waste, scrap, debris, bags, containers, equipment, and asbestos-contaminated clothing which may produce airborne

- concentrations of asbestos fibers in disposal bags or containers approved as specified in Part 1 above for post-award submittals. Prior to placing in bags or containers, thoroughly wet down asbestos wastes to reduce airborne concentrations. All asbestos waste shall be double bagged, wrapped or contained in accordance with 40 CFR Subpart M. At the end of each work shift, all waste asbestos materials shall be removed from the containment. Obtain approval from the AOC/SOHB and affected AOC building Superintendent's office, when the removal of the containerized asbestos waste is scheduled from the containment area. The contractor shall make arrangements for the transportation and disposal of all asbestos waste generated under this specification in accordance with all Federal regulations at a sanitary landfill that meets EPA requirements. The Contractor will provide the AOC/SOHB with a copies of all Waste Shipment Records, hauler's receipts, and landfill receiving tickets resulting from the disposal of the asbestos waste as specified in Part 1 above for disposal receipt submittals. Establishment of any on-site temporary holding area for properly packaged asbestos waste must have prior approval from the AOC/SOHB. At no time shall the Contractor receive any asbestos-containing waste from other jobs, compliance inspectors or other sources without prior approval from the AOC/SOHB.
- D. **Final Cleanup:** The Contractor shall notify the AOC/SOHB and the Project CIH that the work area is ready for final inspection. The Project CIH shall inspect the work area prior to performing final air sampling. Visual observation of asbestos materials, dust or debris is not permitted on any surface in or around the work area. Clean work area in accordance with EPA approved methods. Once the visual observation is satisfied apply a lock down encapsulant.
- E. **Lock down encapsulation:** Lock down encapsulation is an integral part of the ACM removal. At the conclusion of ACM removal and before final air sampling, all surfaces shall be encapsulated with a lock down encapsulant. Apply two coats of encapsulant in strict accordance with the manufacturer's instructions. Any deviation from the instructions must be approved by the AOC's representative in writing prior to commencing the work. Apply the first coat of encapsulant with an airless sprayer at a pressure and using a nozzle orifice as recommended by the manufacturer. If the surface has been allowed to dry, wet wipe or HEPA vacuum prior to spraying with encapsulant. Apply a second coat over the first coat in strict conformance with the manufacturer's instructions. Color the encapsulant and contrast the color in the second coat so that visual confirmation of completeness and uniform coverage of each coat is possible. Adhere to the manufacturer's instructions for coloring. At the completion of the encapsulation, the surface must be a uniform third color produced by the mixture.
1. **EXPOSED EDGES:** Seal edges of ACM exposed by removal work such as ACM left due to being outside the scope of work for this contract, or is inaccessible such as a sleeve or wall penetration, with one coat of penetrating encapsulant and one coat of bridging encapsulant. Prior to sealing, permit the exposed edges to dry completely in between the coats to permit penetration of the encapsulant.
- F. **Final Air Sampling:** Perform air sampling for clearance purposes using a minimum of two (2) Transmission Electron Microscopy (TEM) air samples for each 2500 square feet of containment area. Repeat the decontamination and testing process until asbestos concentration levels are less than 0.01 s/cc (NIOSH 7402 method) or 70 S/mm² (AHERA). Copies of the TEM air sample results are to be faxed to the District of Columbia Department of Health, Air Quality Division.
- G. **Removal of Enclosure:** If asbestos concentrations do not exceed 0.01 s/cc or 70 S/mm², contact the AOC/SOHB for authorization for the removal of the enclosure. Ensure that copies of the

TEM air sample results are telefaxed to the District of Columbia Department of Health, Air Quality Division.

- H. **Re-Occupancy Inspection:** The Contractor shall notify the AOC/SOHB and the Project CIH that the work area is ready for re-occupancy inspection. The Project CIH, shall inspect the work area after removal of the enclosure and shall ensure that no visible debris is observed. If visible debris is observed, the Contractor shall clean the work area as directed by the Project CIH, in accordance with EPA approved methods until no visible debris are observed. The Project CIH shall provide verbal re-occupancy approval to the AOC/SOHB immediately after this inspection. Documentation of the re-occupancy inspection shall be provided to the AOC/SOHB within 24 hours after approving an area for re-occupancy.

3.11 SCHEDULE OF MINIMUM PROCEDURES FOR SPECIFIC AREAS

- A. Areas are identified on the drawings. Plan asbestos removal work and field verify actual extent of areas where each procedure is required. Architect shall survey areas and approve work plans; notify Architect no less than 7 days in advance. Unit prices shall be used to adjust changes to the Contract Sum.
- B. Scheduled procedures are minimum requirements for each type and location of asbestos removal; additional tasks and procedures may be required by individual field conditions or directed by Architect or CIH.
- C. Develop procedures for the following work items:
1. Areas to remove lay-in ceiling panels for work access in ceiling spaces suspected of containing asbestos debris.
 2. Areas to drill through floors with tiles and mastic of ACM.
 3. Areas to remove metal ceiling panels with asbestos-containing insulation blankets lying on top of each panel, for access to work in ceiling space.
 4. Areas to remove metal ceiling panels with asbestos-containing insulation blankets lying on top of each panel, for access to work in ceiling space, where panels are concealed by existing suspended, lay-in ceiling.
 5. Areas to remove baseboard molding with asbestos-containing mastic.
 6. Areas to remove asbestos-containing duct insulation to permit new duct connections or rerouting existing ducts.
 7. Areas to remove asbestos-containing pipe insulation to permit new pipe connections or rerouting existing pipes.

END OF SECTION 13281

SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Electrical equipment coordination and installation.
 - 2. Common electrical installation requirements.

1.2 UNIT PRICES

- A. Unit prices shall be bid in accordance with Bidding Documents and General Requirements.
- B. Nonswitched conductors for transfer relay assembly.
 - 1. Each transfer relay assembly included in the dimming control system requires a nonswitched, 120-V connection from the local lighting circuit supplying the fixture connected to the assembly.
 - 2. There may be locations where the nonswitched, continuously energized conductor is not readily available at the light fixture junction box or nearby panelboard. Where this condition is found in the field, locate the nearest nonswitched continuously energized conductor and provide a new No. 12 connection to the relay assembly.
 - a. Remove the existing conductors from the nonswitched source (junction box or switch box) to the nearest accessible junction box, and install new conductors in the existing conduit.
 - b. New conductors shall be the same number and size as the conductors removed, plus the new nonswitched conductor.
 - 3. Measurement of work in unit price: For purposes of bidding, unit price for each location where this condition is found shall include:
 - a. Labor to locate the nonswitched circuit.
 - b. Removing 25 feet of three No. 12 conductors.
 - c. Installing 25 feet of four No. 12 conductors.
 - d. Reconnection to existing circuit or light switch.
 - 4. Unit price for each linear feet of distance greater than 25 linear feet.

1.3 DEFINITIONS

- A. ATS: Acceptance Testing Specifications.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop drawings: Submit drawings showing layout of electrical systems and equipment to identify how Government's personnel will have access for lockout/tagout procedures.

1.5 QUALITY ASSURANCE

- A. Test Equipment Suitability and Calibration: Comply with NETA ATS, "Suitability of Test Equipment" and "Test Instrument Calibration."

1.6 COORDINATION

- A. Coordinate arrangement, mounting, and support of electrical equipment:
 - 1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
 - 2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
 - 3. To allow right of way for piping and conduit installed at required slope.
 - 4. So connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.
- B. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.
- C. Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed. Access doors and panels are specified in Division 8 Section "Access Doors and Frames."
- D. Coordinate electrical testing of electrical, mechanical, and architectural items, so equipment and systems that are functionally interdependent are tested to demonstrate successful interoperability.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A. Comply with NECA 1, 29 CFR 1910 Subpart S, and 29 CFR 1926 Subpart K.
- B. Install electrical systems and equipment in accordance with approved shop drawings showing accessibility for Government's safety procedures.
- C. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.

- D. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.
- E. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.
- F. Right of Way: Give to raceways and piping systems installed at a required slope.

3.2 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly. Firestopping materials and installation requirements are specified in Division 7 Section "Through-Penetration Firestop Systems."

3.3 FIELD QUALITY CONTROL

- A. Inspect installed sleeve and sleeve-seal installations and associated firestopping for damage and faulty work.

END OF SECTION 16050

SECTION 16072 - ELECTRICAL SUPPORTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Hangers and supports for electrical equipment and systems.
 - 2. Construction requirements for concrete bases.

1.2 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. IBC: International Building Code.
- C. NBC: National Building Code.
- D. OSHPD: Office of Statewide Health Planning and Development.
- E. SBC: Standard Building Code.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed under this Project, with a minimum structural safety factor of five times the applied force.
- B. Steel Slotted Support Systems: Comply with MFMA-3, factory-fabricated components for field assembly.
 - 1. Finishes:
 - a. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-3.
 - 2. Channel Dimensions: Selected for structural loading.
- C. Raceway and Cable Supports: As described in NECA 1.
- D. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- E. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors

or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.

- F. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- G. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
 - 1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - 2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
 - 3. Concrete Inserts: Steel or malleable-iron slotted-support-system units similar to MSS Type 18; complying with MFMA-3 or MSS SP-58.
 - 4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
 - 5. Through Bolts: Structural type, hex head, high strength. Comply with ASTM A 325.
 - 6. Toggle Bolts: All-steel springhead type.
 - 7. Hanger Rods: Threaded steel.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with NECA 1 for application of hangers and supports for electrical equipment and systems, except if requirements in this Section are stricter.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, as required by NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 - 1. Secure raceways and cables to these supports with single-bolt conduit clamps
- D. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 for installation requirements, except as specified in this Article.

- B. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).
- C. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 - 1. To Wood: Fasten with lag screws or through bolts.
 - 2. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - 3. To Existing Concrete: Expansion anchor fasteners.
 - 4. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
 - 5. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate.
- D. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

END OF SECTION 16072

SECTION 16075 - ELECTRICAL IDENTIFICATION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Identification for raceway and metal-clad cable.
 - 2. Identification for conductors and communication and control cable.
 - 3. Equipment identification labels.
 - 4. Miscellaneous identification products.

1.2 SUBMITTALS

- A. Product Data: For each electrical identification product indicated.
- B. Identification Schedule: An index of nomenclature of electrical equipment and system components used in identification signs and labels.

1.3 QUALITY ASSURANCE

- A. Comply with NFPA 70.
- B. Comply with 29 CFR 1910.145.

1.4 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in the Contract Documents, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual, and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.
- B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 RACEWAY AND METAL-CLAD CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.

- B. Manufactured conduit markers: Full-band marker extending 360 degrees around conduit at each location.
 - 1. Plastic tape: Vinyl, at least 0.08 mm thick, with pressure-sensitive, permanently adhesive and self-adhesive back, 19 mm wide.
 - 2. Colors for emergency lighting system: Blue and yellow.
- C. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.

2.2 EQUIPMENT IDENTIFICATION LABELS

- A. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).

2.3 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Cable Ties: Fungus-inert, self-extinguishing, 1-piece, self-locking, Type 6/6 nylon cable ties.
 - 1. Minimum Width: 3/16 inch (5 mm).
 - 2. Tensile Strength: 50 lb (22.6 kg), minimum.
 - 3. Temperature Range: Minus 40 to plus 185 deg F (Minus 40 to plus 85 deg C).
 - 4. Color: Black, except where used for color-coding.
- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Items to be identified include, but are not limited to: Emergency lighting conduit and junction boxes.
- B. Panels: Identify function, equipment served, and area served.
- C. Conduit and junction boxes: Apply blue and yellow bands on conduit adjacent to each junction box and on no wider than 25-foot centers.
- D. Branch-Circuit Conductor Identification: Where there are conductors for more than three branch circuits in same junction or pull box, use color-coding conductor tape. Identify each ungrounded conductor according to source and circuit number.
- E. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master

units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, and control unless equipment is provided with its own identification.

1. Labeling Instructions:

- a. Indoor Equipment: Self-adhesive, engraved, laminated acrylic or melamine label. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on 1-1/2-inch- (38-mm-) high label; where 2 lines of text are required, use labels 2 inches (50 mm) high.

2. Equipment to Be Labeled:

- a. Access doors and panels for concealed electrical items.
- b. Emergency system boxes and enclosures.
- c. Power transfer equipment.

3.2 INSTALLATION

- A. Verify identity of each item before installing identification products.
- B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- C. Apply identification devices to surfaces that require finish after completing finish work.
- D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. Color-Coding for Phase and Voltage Level Identification, 600 V and Less: Use the colors listed below for ungrounded feeder and branch-circuit conductors.
 - 1. Color shall be factory applied.
 - 2. Colors for 208/120-V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 - 3. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.

END OF SECTION 16075

SECTION 16120 - CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes building wires and cables and associated connectors, splices, and terminations for wiring systems rated 600 V and less.
- B. Related Sections: Unit prices specified in "Basic Electrical Materials and Methods."

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Qualification Data: For testing agency.
- C. Field Quality-Control Test Reports: From a qualified testing and inspecting agency engaged by Contractor.

1.3 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Testing agency as defined by OSHA in 29 CFR 1910.7 or a member company of the InterNational Electrical Testing Association and that is acceptable to authorities having jurisdiction.
 - 1. Testing Agency's Field Supervisor: Person currently certified by the InterNational Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

- A. Refer to Part 3 "Conductor and Insulation Applications" Article for insulation type, cable construction, and ratings.
- B. Conductor Material: Copper complying with NEMA WC 5; solid conductor for No. 10 AWG and smaller, stranded for No. 8 AWG and larger.
- C. Conductor Insulation Types: Type THHN-THWN complying with NEMA WC 5.

- D. Multiconductor Cable: Metal-clad, Type MC copper 600V multiconductor with ground conductor. Solid No. 10 and smaller, stranded copper No. 8 conforming to ASTM B3 or B8.

2.2 CONNECTORS AND SPLICES

- A. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated. Do not use die-cast connectors.

PART 3 - EXECUTION

3.1 CONDUCTOR AND INSULATION APPLICATIONS

- A. Exposed branch circuits, including in crawlspaces and tunnels: Type THHN-THWN, single conductors in raceway, or metal-clad, Type MC where indicated on the drawings or where approved by the Architect.
- B. Branch circuits concealed above accessible ceilings: Type THHN-THWN, single conductors in raceway, or metal-clad, Type MC where indicated on the drawings or where approved by the Architect.

3.2 INSTALLATION

- A. Conceal cables in finished walls and ceilings, unless otherwise indicated.
- B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- D. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- E. Support cables according to Division 16 Section "Basic Electrical Materials and Methods."
- F. Seal around cables penetrating fire-rated elements according to Division 7 Section "Through-Penetration Firestop Systems."
- G. Identify and color-code conductors and cables according to Division 16 Section "Electrical Identification."

3.3 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

- B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

3.4 INSTALLING MC CABLE

- A. Install in compliance with the NEC.
- B. Locations: In plastered masonry partitions and walls.
- C. Connect cable with wiring accessories specified above.
- D. Cable larger than No. 8 shall not be permitted.

3.5 FIELD QUALITY CONTROL

- A. Testing: Perform the following field quality-control testing:
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test for compliance with requirements.
 - 2. Perform each electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.3.1. Certify compliance with test parameters.
- B. Test Reports: Prepare a written report to record the following:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

END OF SECTION 16120

SECTION 16130 - RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.
- B. Related Sections include the following:
 - 1. Division 7 Section "Through-Penetration Firestop Systems" for firestopping materials and installation at penetrations through walls, ceilings, and other fire-rated elements.
 - 2. Division 16 Section "Basic Electrical Materials and Methods" for unit prices and supports, anchors, and identification products.
 - 3. Division 16 Section "Wiring Devices" for devices installed in boxes and for floor-box service fittings.

1.2 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. FMC: Flexible metal conduit.

1.3 SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 METAL CONDUIT AND TUBING

- A. EMT and Fittings: ANSI C80.3.
 - 1. Fittings: Compression. Die-cast fitting prohibited. Connector shall have insulated throats.
- B. FMC: 2 inch-coated steel.

2.3 BOXES, ENCLOSURES, AND CABINETS

- A. Sheet Metal Outlet and Device Boxes: NEMA OS 1.
- B. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- C. Relay Boxes: NEMA 250 Type 1, galvanized steel box finished inside and out with manufacturer's standard enamel; hinged door in front cover with nonlockable latch.

2.4 FACTORY FINISHES

- A. Finish: For raceway, enclosure, or cabinet components, provide manufacturer's standard paint applied to factory-assembled surface raceways, enclosures, and cabinets before shipping.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Indoors:
 - 1. Exposed: EMT.
 - 2. Concealed: EMT.
 - 3. Boxes and Enclosures: NEMA 250, Type 1, except as follows:
 - a. Damp or Wet Locations: NEMA 250, Type 4, stainless steel.
- B. Minimum Raceway Size: 3/4-inch trade size (DN 21).
- C. Raceway Fittings: Compatible with raceways and suitable for use and location.

3.2 INSTALLATION

- A. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes.
- B. Complete raceway installation before starting conductor installation.
- C. Support raceways as specified in Division 16 Section "Basic Electrical Materials and Methods."
- D. Install temporary closures to prevent foreign matter from entering raceways.
- E. Make bends and offsets so ID is not reduced. Keep legs of bends in the same plane and keep straight legs of offsets parallel, unless otherwise indicated. Use LB fittings in most conduit runs to keep the conduit as close to the wall and ceiling structure as possible.

- F. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated.
 - 1. Install concealed raceways with a minimum of bends in the shortest practical distance, considering type of building construction and obstructions, unless otherwise indicated.
- G. Install exposed raceways parallel or at right angles to nearby surfaces or structural members and follow surface contours as much as possible.
 - 1. Run parallel or banked raceways together on common supports.
 - 2. Make parallel bends in parallel or banked runs. Use factory elbows only where elbows can be installed parallel; otherwise, provide field bends for parallel raceways.
- H. Join raceways with fittings designed and approved for that purpose and make joints tight.
 - 1. Use insulating bushings to protect conductors.
- I. Terminations:
 - 1. Where raceways are terminated with locknuts and bushings, align raceways to enter squarely and install locknuts with dished part against box. Use two locknuts, one inside and one outside box.
 - 2. Where raceways are terminated with threaded hubs, screw raceways or fittings tightly into hub so end bears against wire protection shoulder. Where chase nipples are used, align raceways so coupling is square to box; tighten chase nipple so no threads are exposed.
- J. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb90-kg tensile strength. Leave at least 12 inches300 mm of slack at each end of pull wire.
- K. Flexible Connections: Use maximum of 72 inches (1830 mm) of flexible conduit for recessed and semirecessed lighting fixtures; for equipment subject to vibration, noise transmission, or movement; and for all motors.
- L. Install hinged-cover enclosures and cabinets plumb. Support at each corner.

3.3 PROTECTION

- A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

3.4 CLEANING

- A. After completing installation of exposed, factory-finished raceways and boxes, inspect exposed finishes and repair damaged finishes.

END OF SECTION 16130

SECTION 16140 - WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Transfer relay assembly.
2. Relays.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.

1.3 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of wiring device through one source from a single manufacturer.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 TRANSFER RELAY ASSEMBLY

- A. Device operating continuously to detect power failure and bypass local control device to transfer lighting fixture to emergency power source, meeting requirements of NFPA 70 for emergency systems, and UL 294.
- B. Operation: Instantaneous, electrically operated, mechanically held.
- C. Fuses: 3A maximum on each input.
- D. Test switch: Capable of testing device under load.
- E. Ac input current: 180 mA.
- F. Ac input power rating: 1.6 watts.
- G. Capacity and rating: All loads simultaneously, maximum connected current.

- H. Warning sign: Caution, 2 electrical power sources in this unit.
- I. Mounting: Assembly shall be capable of being mounted independently above fixture housing, or in the fixture ballast compartment if space is available.

2.3 RELAYS

- A. Relays: Modular design, 600 volt ratings as indicated on the drawings.
- B. Contacts: Double break fine silver, convertible from normally open to normally closed contacts. Provide contact status indication.
- C. Coils: Molded construction, terminals provided with pressure wire connectors.
- D. Coil voltage and number of contacts shall be indicated on the drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install devices and assemblies level, plumb, and square with building lines.
- B. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical, and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.
- C. Remove wall plates and protect devices and assemblies during painting.

3.2 CONNECTIONS

- A. Ground equipment according to Division 16 Section "Grounding and Bonding."
- B. Connect wiring according to Division 16 Section "Conductors and Cables."
- C. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.3 FIELD QUALITY CONTROL

- A. Perform the following field tests and inspections and prepare test reports:
 - 1. After installing wiring devices and after electrical circuitry has been energized, test for proper polarity, ground continuity, and compliance with requirements.
- B. Remove malfunctioning units, replace with new units, and retest as specified above.

END OF SECTION 16140

SECTION 16442 - PANELBOARDS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Lighting and appliance branch-circuit panelboards.

1.2 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. GFCI: Ground-fault circuit interrupter.
- C. RFI: Radio-frequency interference.
- D. RMS: Root mean square.

1.3 SUBMITTALS

- A. Product Data: For each type of panelboard, overcurrent protective device, accessory, and component indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.
- B. Shop Drawings: For each panelboard and related equipment.
 - 1. Dimensioned plans, elevations, sections, and details. Show tabulations of installed devices, equipment features, and ratings. Include the following:
 - Enclosure types and details for types other than NEMA 250, Type 1.
 - Bus configuration, current, and voltage ratings.
 - Short-circuit current rating of panelboards and overcurrent protective devices.
 - UL listing for series rating of installed devices.
 - Features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
 - 2. Wiring Diagrams: Power, signal, and control wiring.
- C. Field quality-control test reports including the following:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.

- D. Panelboard Schedules: For installation in panelboards. Submit final versions after load balancing.
- E. Operation and Maintenance Data: For panelboards and components to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 1 for Operation and Maintenance Data, include the following:
 - 1. Manufacturer's written instructions for testing and adjusting overcurrent protective devices.
 - 2. Time-current curves, including selectable ranges for each type of overcurrent protective device.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain panelboards, overcurrent protective devices, components, and accessories through one source from a single manufacturer.
- B. Product Options: Drawings indicate size, profiles, and dimensional requirements of panelboards and are based on the specific system indicated. Refer to Division 1 Section "Product Requirements."
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- D. Comply with NEMA PB 1.
- E. Comply with NFPA 70.

1.5 PROJECT CONDITIONS

- A. Environmental Limitations: Rate equipment for continuous operation under the following conditions, unless otherwise indicated:
 - 1. Ambient Temperature: Not exceeding 104 deg F (40 deg C).
 - 2. Altitude: Not exceeding 6600 feet (2000 m).
- B. Interruption of Existing Electric Service: Do not interrupt electric service to building unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:
 - 1. Notify the Architect no fewer than five days in advance of proposed interruption of electrical service.
 - 2. Do not proceed with interruption of electrical service without Architect's written permission.

1.6 COORDINATION

- A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, and encumbrances to workspace clearance requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

- A. Enclosures: Surface-mounted cabinets. NEMA PB 1, Type 1.
 - 1. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
 - 2. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover (door-in-door construction).
 - 3. Skirt for Surface-Mounted Panelboards: Same gage and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor.
 - 4. Gutter Extension and Barrier: Same gage and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
 - 5. Finish: Manufacturer's standard enamel finish over corrosion-resistant treatment or primer coat.
 - 6. Directory Card: With transparent protective cover, mounted in metal frame, inside panelboard door.
- B. Phase and Ground Buses:
 - 1. Material: Hard-drawn copper, 98 percent conductivity.
 - 2. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment ground conductors; bonded to box.
- C. Conductor Connectors: Suitable for use with conductor material.
 - 1. Main and Neutral Lugs: Compression type.
 - 2. Ground Lugs and Bus Configured Terminators: Compression type.
 - 3. Feed-Through Lugs: Compression type suitable for use with conductor material. Locate at opposite end of bus from incoming lugs or main device.
- D. Future Devices: Mounting brackets, bus connections, and necessary appurtenances required for future installation of devices.

2.2 PANELBOARD SHORT-CIRCUIT RATING

- A. UL label indicating series-connected rating with integral or remote upstream overcurrent protective devices. Include size and type of upstream device allowable, branch devices allowable, and UL series-connected short-circuit rating.
- B. Fully rated to interrupt symmetrical short-circuit current available at terminals.

2.3 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

- A. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.
- B. Doors: Concealed hinges; secured with flush latch with tumbler lock; keyed alike.

2.4 OVERCURRENT PROTECTIVE DEVICES

- A. Molded-Case Circuit Breaker: UL 489, with interrupting capacity to meet available fault currents.
 - 1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
- B. Molded-Case Circuit-Breaker Features and Accessories: Standard frame sizes, trip ratings, and number of poles.
 - 1. Lugs: Compression style, suitable for number, size, trip ratings, and conductor materials.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install panelboards and accessories according to NEMA PB 1.1.
- B. Mount top of trim 74 inches (1880 mm) above finished floor, unless otherwise indicated.
- C. Mount plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish.
- D. Install overcurrent protective devices.
- E. Install filler plates in unused spaces.
- F. Arrange conductors in gutters into groups and bundle and wrap with wire ties after completing load balancing.

3.2 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs as specified in Division 16 Section Electrical Identification.
- B. Create a directory to indicate installed circuit loads after balancing panelboard loads. Obtain approval before installing. Use a computer or typewriter to create directory; handwritten directories are not acceptable.
- C. Panelboard Nameplates: Label each panelboard with engraved metal or laminated-plastic nameplate mounted with corrosion-resistant screws.

3.3 CONNECTIONS

- A. Ground equipment according to NFPA 70.
- B. Connect wiring according to Division 16 Section "Conductors and Cables."

3.4 FIELD QUALITY CONTROL

- A. Prepare for acceptance tests as follows:
 - 1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
 - 2. Test continuity of each circuit.
- B. Perform the following field tests and inspections and prepare test reports:
 - 1. Perform each electrical test and visual and mechanical inspection stated in NETA ATS, Section 7.5 for switches and Section 7.6 for molded-case circuit breakers. Certify compliance with test parameters.
 - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
 - 3. Perform system function test on the remote power switching system to demonstrate compliance.
- C. Load Balancing: After Substantial Completion, but not more than 60 days after Final Acceptance, measure load balancing and make circuit changes.
 - 1. Measure as directed during period of normal system loading.
 - 2. Perform load-balancing circuit changes outside normal occupancy/working schedule of the facility and at time directed. Avoid disrupting critical 24-hour services such as fax machines and on-line data processing, computing, transmitting, and receiving equipment.
 - 3. After circuit changes, recheck loads during normal load period. Record all load readings before and after changes and submit test records.
 - 4. Tolerance: Difference exceeding 20 percent between phase loads, within a panelboard, is not acceptable. Rebalance and recheck as necessary to meet this minimum requirement.

3.5 CLEANING

- A. On completion of installation, inspect interior and exterior of panelboards. Remove paint splatters and other spots. Vacuum dirt and debris; do not use compressed air to assist in cleaning. Repair exposed surfaces to match original finish.

END OF SECTION 16442

SECTION 16511 - INTERIOR LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Interior lighting fixtures with lamps and ballasts.
 - 2. Emergency lighting units.
 - 3. Exit signs.

1.3 DEFINITIONS

- A. BF: Ballast factor. Ratio of light output of a given lamp(s) operated by the subject ballast to the light output of the same lamp(s) when operated on an ANSI reference circuit.
- B. CRI: Color rendering index.
- C. CU: Coefficient of utilization.
- D. LED: Light-emitting diode.
- E. LER: Luminaire efficiency rating, which is calculated according to NEMA LE 5. This value can be estimated from photometric data using the following formula:
 - 1. LER is equal to the product of total rated lamp lumens times BF times luminaire efficiency, divided by input watts.
- F. RCR: Room cavity ratio.

1.4 SUBMITTALS

- A. Product Data: For each type of lighting fixture scheduled, arranged in order of fixture designation. Include data on features, accessories, finishes, and the following:
 - 1. Physical description of fixture, including dimensions and verification of indicated parameters.
 - 2. Emergency lighting unit battery and charger.
 - 3. Fluorescent and high-intensity-discharge ballasts.
 - 4. Lamps.
- B. Source quality-control test reports.

- C. Field quality-control test reports.
- D. Operation and Maintenance Data: For lighting equipment and fixtures to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 1 Section "Operation and Maintenance Data," include the following:
 - 1. Catalog data for each fixture. Include the diffuser, ballast, and lamps installed in that fixture.
- E. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.
- C. NFPA 101 Compliance: Comply with visibility and luminance requirements for exit signs.

1.6 COORDINATION

- A. Coordinate layout and installation of lighting fixtures and suspension system with other construction that penetrates ceilings or is supported by them, including HVAC equipment, fire-suppression system, and partition assemblies.

1.7 WARRANTY

- A. Special Warranty for Emergency Lighting Unit Batteries: Manufacturer's standard form in which manufacturer of battery-powered emergency lighting unit agrees to repair or replace components of rechargeable batteries that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 10 years from date of Substantial Completion. Full warranty shall apply for first year, and prorated warranty for the remaining nine years.
- B. Special Warranty for Fluorescent Ballasts: Manufacturer's standard form in which ballast manufacturer agrees to repair or replace ballasts that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period for Electronic Ballasts: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 FIXTURES AND COMPONENTS, GENERAL

- A. Incandescent Fixtures: Comply with UL 1571.
- B. Fluorescent Fixtures: Comply with UL 1570.
- C. Metal Parts: Free of burrs and sharp corners and edges.
- D. Sheet Metal Components: Steel, unless otherwise indicated. Form and support to prevent warping and sagging.
- E. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.
- F. Reflecting surfaces shall have minimum reflectance as follows, unless otherwise indicated:
 - 1. White Surfaces: 85 percent.
 - 2. Specular Surfaces: 83 percent.
 - 3. Diffusing Specular Surfaces: 75 percent.
 - 4. Laminated Silver Metallized Film: 90 percent.
- G. Plastic Diffusers, Covers, and Globes:
 - 1. Acrylic Lighting Diffusers: 100 percent virgin acrylic plastic. High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
 - a. Lens Thickness: At least 0.125 inch (3.175 mm) minimum unless different thickness is scheduled.
 - b. UV stabilized.
 - 2. Glass: Annealed crystal glass, unless otherwise indicated.

2.2 FLUORESCENT LAMP BALLASTS

- A. Description: Include the following features, unless otherwise indicated:
 - 1. Designed for type and quantity of lamps indicated at full light output.
 - 2. Externally fused with slow-blow type rated between 2.65 and 3.0 times the line current.
- B. Ballasts for compact lamps in recessed and non recessed fixtures shall have the following features, unless otherwise indicated:
 - 1. Power Factor: 90 percent, minimum.
 - 2. Ballast coil temperature: 65 degrees C, maximum.
 - 3. Transient Protection: Comply with IEEE C62.41 for Category A1 locations.
 - 4. Interference: Comply with 47 CFR, Chapter 1, Part 18, Subpart C, for limitations on electromagnetic and radio-frequency interference for nonconsumer equipment.

2.3 EXIT SIGNS

- A. General: Comply with UL 924; for sign colors and lettering size, comply with authorities having jurisdiction.
- B. Internally Lighted Signs:
 - 1. Lamps for AC Operation: LEDs, 70,000 hours minimum rated lamp life.

2.4 EMERGENCY LIGHTING UNITS

- A. General: Self-contained units complying with UL 924.
 - 1. Battery: Sealed, maintenance-free, lead-acid type with minimum 10-year nominal life and special warranty.
 - 2. Charger: Full automatic, solid-state type with sealed transfer relay.
 - 3. Operation: Relay automatically turns lamp on when power supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
 - 4. Wire Guard: Where indicated, heavy-chrome-plated wire guard protects lamp heads or fixtures.
 - 5. Integral Time-Delay Relay: Holds unit on for fixed interval when power is restored after an outage; time delay permits high-intensity-discharge lamps to restrike and develop adequate output.

2.5 FLUORESCENT LAMPS

- A. Low-Mercury Lamps: Comply with Federal toxic characteristic leaching procedure test, and yield less than 0.2 mg of mercury per liter, when tested according to NEMA LL 1.
- B. Compact Fluorescent Lamps: CRI 80 (minimum), color temperature 3500, average rated life of 10,000 hours at 3 hours operation per start, unless otherwise indicated. Lamp types are specified on the drawings.

2.6 FIXTURE SUPPORT COMPONENTS

- A. Comply with Division 16 Section "Basic Electrical Materials and Methods" for channel- and angle-iron supports and nonmetallic channel and angle supports.
- B. Wires: ASTM A 641/A 641M, Class 3, soft temper, zinc-coated, 12 gage (2.68 mm).
- C. Rod Hangers: 3/16-inch- (5-mm-) minimum diameter, cadmium-plated, threaded steel rod.

2.8 FINISHES

- A. Fixtures: Manufacturers' standard, unless otherwise indicated.

1. Paint Finish: Applied over corrosion-resistant treatment or primer, free of defects.
2. Metallic Finish: Corrosion resistant.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Fixtures: Set level, plumb, and square with ceilings and walls. Install lamps in each fixture.
- B. Adjust aimable fixtures to provide required light intensities.
- C. Provide a guard on every fixture located less than 7 feet above a working surface.

3.2 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.3 FIELD QUALITY CONTROL

- A. Inspect each installed fixture for damage. Replace damaged fixtures and components.
- B. Verify normal operation of each fixture after installation.
- C. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify normal transfer to emergency power source and retransfer to normal.
- D. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.
- E. Corroded Fixtures: During warranty period, replace fixtures that show any signs of corrosion.

END OF SECTION 16511

SECTION 16570 - DIMMING CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Lighting dimming control system including panels, modules, control and entry stations.

1.2 RELATED SECTIONS

- A. Division 16 Section "Interior Lighting" for lighting fixtures.

1.3 SUBMITTALS

- A. Reserved.
- B. Product data: Each specified item of equipment.
- C. Shop drawings:
 - 1. Wiring diagrams and riser diagrams.
 - 2. Drawings of faceplates, showing text, style, and method of identifying operations and settings.

1.4 QUALITY ASSURANCE

- A. Components shall be individually and as assemblies tested and labeled by an independent, nationally recognized testing and labeling authority.
- B. System shall consist of integral factory-fabricated and -wired units. Field wiring shall consist of connecting central and remote stations.
- C. Manufacturer's representative: Factory-trained in installing and testing dimming systems.

PART 2 - PRODUCTS

2.1 DIMMER PANEL

- A. Wall-mounted, dead front panelboard, designed for insertion and removal of modules, configured to accept mixed dimmer types and ratings in all panel locations.
- B. Internal supports shall precisely align modules into power and signal connector blocks.
- C. When modules are removed, access shall be clear to load, neutral, and control locations.
- D. Door: Full height of rack, lockable, with cleanable electrostatic filter.

- E. Identification: Modules in the rack shall be sequentially numbered, labeled, and address from top to bottom. No two sequential modules shall be on the same phase.
- F. Finish: Manufacturer's standard enamel.
- G. Cooling: A low-noise fan shall turn on when any dimmer is activated and shall remain on when individual overheated modules are shut down.
 - 1. When a dimmer module overheats, it shall shut down and indicators on the module and on the control module shall light.
- H. Electrical components:
 - 1. Vertical phase bus rated for 100 percent continuous duty and system fault current rating of upto 100,000 AIC.
 - 2. Control wiring shall conform to the recommended practices for the system and Ethernet specifications.
 - 3. Convenience panel shall contain a 20-A, 120-V, 60-Hz, grounded duplex power outlet.
- I. Controls: Electronics shall be contained in a plug-in control module containing rack status indicators and a single-function service switch which shall allow the user to bypass the controls. When activated, the service switch shall turn on all lights to full brightness.
 - 1. Handheld remote control keypad with LCD display shall control system configuration, testing, and diagnostics. The display shall include panel status and messages.
 - 2. Outputs: Regulated for incoming line voltages. The control module shall monitor and adjust each dimmer's output to maintain a constant output voltage to the load.
 - a. Regulation shall maintain the output voltage for the entire operating range of 90 to 140 Vac, except that the maximum output will be no greater than the line voltage minus dimmer insertion voltage drop.
 - b. There shall be no interaction between dimmers and other equipment in the system.
 - 3. Inputs:
 - a. Two optically isolated system inputs shall permit overlapping or separation of any control level. 2500 V of optical isolation between the system inputs and the control module shall protect the system from module failure and protect the control module from system input failure.

- b. No fewer than 120 to 10-V analog inputs shall permit analog control of the rack. Each dimmer may be assigned to any of the inputs.
- 4. The control module shall be digital without requiring digital-to-analog demultiplexing schemes or analog ramping circuits, except for the analog signals from the wall dimmer station. In the event of signal loss, each panel shall maintain the last level for a user-programmable time.
- 5. Each dimmer may be individually assigned a specific address for each system input, contain diagnostic routines that allow the user to test the system, and record backup looks.
 - a. Backup looks may be programmed by recording current dimmer levels set by the console or other programming device; by entering dimmer levels directly on the control module; or by entering dimmer levels at a remote station.
 - b. Several backup looks may be active simultaneously with inputs operating on the basis of the highest takes precedence.

2.2 DIMMER MODULE

- A. Enclosure: Aluminum no less than 0.063 inch thick, containing the components without exposing any electrical component, with no line or low-voltage connection within the front 5 inches of the module, with flush input and output connections.
 - 1. Finish: Manufacturer's standard gray enamel, with identification silkscreened in black.
 - 2. Identification: Front panel shall indicate manufacturer, model, and number and capacity of module dimmers.
 - 3. Display: Lighted, indicating dimmer status with a separate indicator for fault status.
- B. Protection: Dimmer shall withstand overcurrents, and inrush currents, hot patches, and short circuits of 0.02 ohms or more without damage.
 - 1. Primary circuit breakers: UL listed, rated at 100 percent capacity, must-trip capacity at 125 percent.
- C. Except for circuit breakers, module shall contain no moving parts.
- D. Heat sink: With thermal sensor and silicon-controlled rectifiers (SCR) configured in inverse parallel.
- E. Switch devices: Solid-state, mounted in a substrate designed for heat dissipation, and including an optical isolator, a snubbing network, and gating circuitry on the high-voltage

side of an integral, optically coupled control voltage isolator providing a minimum of 2500 V rms isolation between line and control.

- F. Thermal protection: Solid-state module shall be protected independent of the control module. Shutdown circuit shall activate when heat sink temperature exceeds 85 degrees C, and restart automatically when temperature drops to safe levels.
- G. Load circuit wiring: Tin-coated, stranded copper, encased in insulation meeting requirements of NEC.
- H. Dimmer circuits: Two, 20 A each.
- I. Dimmer shall operate over an input range of 90 to 140 Vac, 50 to 60 Hz. Standard nominal input shall be 120 Vac, 50 to 60 Hz.
- J. Insertion voltage drop shall be no more than 3.4 V rms at the maximum rated load with 120 Vac input.
- K. 2.4 kW rated SCR heat loss shall not be greater than 100 Btu per hour per kW of connected load.
- L. Control voltage shall be internally switchable between 0 to 10 and 0 to 120 V.
- M. Dimmer shall be designed for use with digital memory controllers.
- N. Module control connectors shall be designed so that a module of greater capacity cannot be substituted or operated in its position.
- O. Operation:
 - 1. Dimmer curve: Square Law, Linear Curve, or a profile digitally programmed by the user.
 - 2. Any control setting shall give the same dimmer output regardless of the direction of control movement.
 - 3. Dimmer shall also function as a nondimmer or dimmer for incandescent and inductive loads.

2.3 DISPLAY CONTROL STATION

- A. Network-compatible LCD control station, mounted in a four-gang deep masonry backbox with a brushed aluminum faceplate, 0.08 inch thick, without visible fasteners. Silkscreened graphics shall indicate button functions. Station shall include clear visual indication of the system operating status.
- B. Input board: With rubber buttons and LED status indicators.

- C. Processor board: With network assignment through 16-position rotary encoder, keyed removable connector for control terminations, and 1 by 3-inch backlit LCD.
- D. Operation: Configure and control all lighting functions defined by the system program.
 - 1. Features:
 - a. 4-line, 20-character display with clear labels and illuminated controls.
 - b. Select up to 24 presets with or without a fade time.
 - c. Proportional "master control" of each preset.
 - d. Select a system Off position.
 - 2. Select programmable conditions assigned in the control module. All assignments shall be available for review or edit from the display station at any time. Minimum conditions:
 - a. Assign password protection to control features.
 - b. Configure memory, system, mode, dimmers, rooms, stations, and presets.
 - c. Set time and date, astronomical clock, timed event, remote lock, and holiday features.
 - d. Assign and edit, copy active or copy and paste, levels, presets, links, and events.
 - e. Label channels, rooms, presets, and system features.
 - f. Access system disk for updates and records.

2.4 ENTRY STATION

- A. Network-compatible, two-button control station mounted in a single-gang, deep masonry backbox with brushed aluminum faceplate 0.080 inch thick and secured without visible fasteners. Silkscreened graphics shall indicate button functions. Station shall include visual indication of system operating status, direct tactile and visual feedback to any control request, and full electrical isolation from the station electronics.
- B. Input board: With rubber buttons and LED status indicators.
- C. Processor board: With network assignment through 16-position rotary encoder, keyed removable connector for control terminations.
- D. Operation: Perform basic lighting control functions defined by the system program.

1. Features:
 - a. Select a preset with a fade time.
 - b. Access a direct On connection.
 - c. Select condition with linked features.
 - d. Select a second preset or a system Off position.
2. Entry station's control conditions shall be assigned from the system display station. The assignments shall be available for review or edit from the system display station at any time. Controlled conditions shall include:
 - a. Remote lock shall restrict control when an assigned preset is active.
 - b. Station lock shall restrict all station activity.

2.5 DIMMER TRANSFER ASSEMBLY

- A. Device operating continuously to detect power failure and bypass local control device to transfer lighting fixture to emergency power source, meeting requirements of NFPA 70 for emergency systems and UL 924, and listed in accordance with UL 1008.
- B. Contacts: 20-A, instantaneous or time delay, electrically operated, mechanically held.
- C. Test switch capable of testing device under load.
- D. Enclosure: NEMA 250 Type 1.
 1. Indicators: LED, red, Power On, Emergency Power.
- E. Capacity and rating: All loads simultaneously, maximum connected current.
- F. Warning sign: Caution, 2 electrical power sources in this unit.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Do not install any equipment of the system before shop drawings have been approved.

3.2 INSTALLATION

- A. Install in accordance with the manufacturer's recommendations.
- B. Make final connections between the central and remote units under the direction and supervision of the manufacturer's representative.

- C. Transfer relay assemblies: Where nonswitched, continuously energized conductors are not readily available at the light fixture junction box, obtain nonswitched conductor as specified in Section 16050 article "Unit Prices."
- 1. Keep daily records of such locations and notify the Architect in accordance with "Progress Meetings and Documentation" in Division 1 Section "General Requirements."

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's representative shall inspect the system after installation.
- B. Manufacturer's representative shall perform initial operation, testing, and adjusting.

3.4 OPERATING INSTRUCTIONS

- A. As specified in Section 16050, provide operating instructions.
- B. Provide at least 2 hours of additional instruction time for the systems and equipment specified in this section.

END OF SECTION 16570

END OF SPECIFICATIONS

ATTACHMENTS

FAR (48) CFR 53.214(g)
FAR (48) CFR 53.215-1(h))

OF-17 (12/93)
Offer Label

NOTICE TO OFFEROR

1. THIS LABEL MAY ONLY BE USED ON ENVELOPES
LARGER THAN 156 mm (6 1/8 INCHES) IN HEIGHT
AND 292 mm (11 1/2 INCHES) IN LENGTH.
2. Print or type your name and address in the UPPER left corner
of the envelope containing your offer.
3. Complete the bottom portion of this form and paste it on the
LOWER left corner of the envelope, unless the envelope is
156 mm by 292 mm (6 1/8 inches by 11 1/2 inches) or smaller.

OFFER

SOLICITATION NO.	
DATE FOR RECEIPT OF OFFERS	
TIME FOR RECEIPT OF OFFERS	
AM	PM
OFFICE DESIGNATED TO RECEIVE OFFERS	